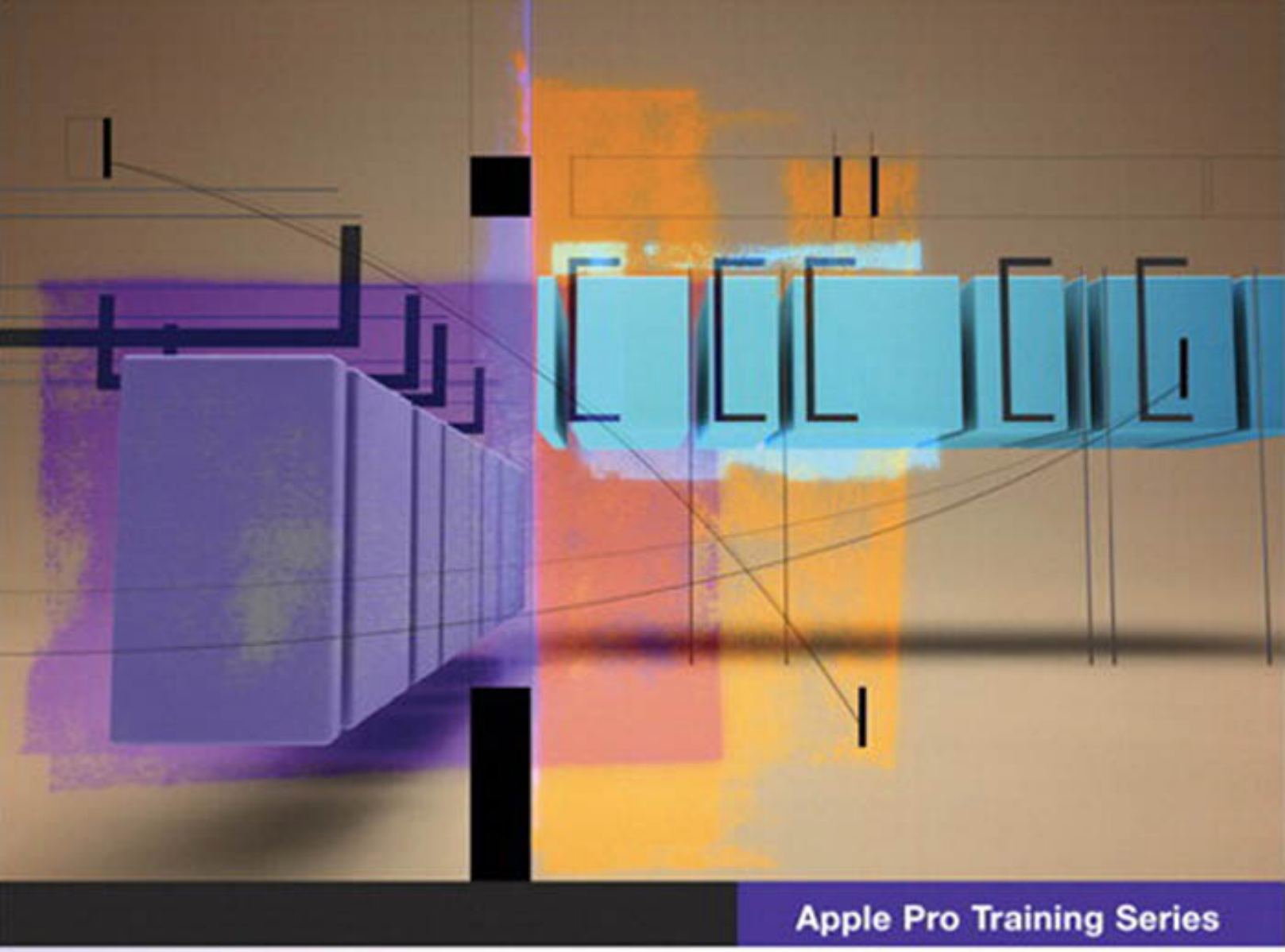

Apple Pro Training Series

Final Cut Pro for Avid Editors Fourth Edition

A Guide for Editors Making the Switch

Diana Weynand

Apple Certified

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Apple Pro Training Series

Final Cut Pro for Avid Editors, Fourth Edition

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Apple Pro Training Series: Final Cut Pro for Avid Editors, Fourth Edition
Diana Weynand
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May this book inform and inspire you along your editorial journey just as my mother's life has informed and inspired me. Mom, this one's for you.

Acknowledgments It takes a village to produce a book—or at least to support the author writing it. This has always been the case for me, and this book was no exception.

Special thanks to Shirley Craig, my business partner, for supporting Weynand Training's Apple Authorized Training Center and our other training projects (www.weynand.com), Steve Kanter for skillfully navigating both FCP and Avid editing streams as my technical editor, Loren S. Miller for providing editorial feedback and assistance when I needed a helping hand, and to Michael Kammes at KeyCode Media for technical support.

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At Apple, I'd like to thank Steve Bayes for always taking the time to provide me with a clear and concise view of Final Cut Studio features and applications.

And finally, since all good energy never dies—it just moves on to a different village—I'd like to thank Patty Montesion for her support not only on this book, but for her dedication to the entire Apple Pro Training Series of books she spearheaded throughout her time at Apple. Her vision has helped shape the video training world for the better.

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Getting Started

Welcome to the official Apple Pro Training Series course *Final Cut Pro for Avid Editors: A Guide for Editors Making the Switch*. This is not just another book on Apple Final Cut Pro (FCP), and it wasn't written for a general audience. It was developed and written specifically for Avid editors who want to learn FCP. And this version includes many references to the latest software versions, both Avid 5 and Final Cut Pro 7.

Since you are part of a very specific audience, we are taking certain things for granted. First, we assume that you know and understand the concepts of nonlinear editing (NLE) and editing principles in general. Second, we assume that you don't need explanations of functions as much as you need directions on how to get to them. And third, we assume that you would much rather learn new terminology in reference to what you already know.

So while you may be uncomfortable editing on a system that doesn't feel quite like home, keep in mind that the first time you sat down at an Avid system, it probably didn't feel as good as your previous editing system, either, whether it was a linear GVG or a Kem. And if you have dabbled in desktop graphics or compositing programs such as Adobe Photoshop or After Effects, your transition will be even easier because of the similarities between the programs.

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The Methodology

This is one book where, in fact, we do wish to compare apples to oranges. As often as possible, we describe an Avid function and then describe the equivalent Final Cut Pro function and how to access and apply it. In addition, the book offers images of Avid screens, buttons, and icons so you can get your bearings before turning to the FCP interface. In many instances, FCP and Avid terminology bear a marked similarity, but at times each system will have its own names for things. Whenever possible, the book points out the terminology differences so you can find the function you need quickly.

As you begin to work using FCP, you'll see that it has a lot of depth as a nonlinear desktop editing program. In addition to having a lot of functionality, FCP often gives you several ways to perform each function. We include multiple approaches throughout the book so you can begin to get a feel for the flexibility of FCP. But we have not tried to be comprehensive and include absolutely everything the program can do, nor do we provide every shortcut you can use. This book is meant to help you make a smooth transition from Avid to FCP and to get you comfortable editing in FCP as quickly as possible.

About the Apple Pro Training Series

Final Cut Pro for Avid Editors is part of the official training series for Apple Pro applications developed by experts in the field. The lessons are designed to let you learn at your own pace. If you're new to Final Cut Pro, you'll learn the fundamental concepts and features you'll need to master the program. Each lesson concludes with a review section summarizing what you've covered.

Apple Pro Certification Program

The Apple Pro Training and Certification Programs are designed to keep you at the forefront of Apple digital media technology while giving you a competitive edge in today's ever-changing job market. Whether you're an editor, graphic designer, sound designer, special effects artist, or teacher, these training tools are meant to help you expand your skills.

You can become an Apple Pro by taking a certification exam at any Apple Authorized Training Center. Certification is offered in Final Cut Pro, Motion, Color, Soundtrack

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Pro, DVD Studio Pro, Shake, and Logic Pro. Certification as an Apple Pro gives you official recognition of your knowledge of Apple professional applications while allowing you to market yourself to employers and clients as a skilled, pro-level user of Apple products.

For those who prefer to learn in an instructor-led setting, Apple also offers training courses at Apple Authorized Training Centers worldwide. These courses, which use the Apple Pro Training Series books as their curriculum, are taught by Apple Certified Trainers and balance concepts and lectures with hands-on labs and exercises. Apple Authorized Training Centers for Pro products have been carefully selected and have met Apple's highest standards in all areas, including facilities, instructors, course delivery, and infrastructure. The goal of the program is to offer Apple customers, from beginners to the most seasoned professionals, the highest quality training experience.

To find an Authorized Training Center near you, go to training.apple.com.

Loading Software and Staying Current

Before you get started, you will need to load the Final Cut Pro application (or the entire Final Cut Studio set of applications) onto your hard drive. To do this, follow the directions that came with the application. Also, it is very important to download and install all the latest updates to Final Cut Pro. In addition to including additional features, these revisions often contain minor fixes to the software. You can download these software updates from www.apple.com/support/finalcutpro.

> **TIP** As an Avid editor, you may be used to having your software and computer configured by an engineer or technician to maximize system performance. Although Final Cut Pro is often thought of as an "out-of-the box" application, it is recommended that you have a support person confirm that your FCP system configuration is properly set up to achieve the highest level of performance.

We also recommend you read the "New Features" section of the latest software upgrade Help documentation to learn about the most recent changes and upgrades.

> **TIP** You can also check www.peachpit.com/apts.fcp-avid for revised information.

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Resources

Apple Pro Training Series: Final Cut Pro for Avid Editors is not intended as a comprehensive reference manual, nor does it replace the documentation that comes with the application. For comprehensive information about program features, refer to the following resources:

- The FCP Reference Guide: Accessed through the Final Cut Pro Help menu, the Reference Guide contains a complete description of all features.
- Apple website: www.apple.com
- Final Cut Studio 3 system requirements: www.apple.com/finalcutstudio/specs.html
- What's new in Final Cut Pro 7: www.apple.com/finalcutstudio/finalcutpro/whatsnew.html
- Technical specifications: www.apple.com/finalcutstudio/finalcutpro/specs.html
- FCP for Avid Tips: www.weynand.com/wt/content/fcp-for-avid/

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1

Goals

Open Final Cut Pro

Explore the FCP interface

Work with projects and bins

View source clips and sequences

Work with the Timeline

Apply labels to clips, bins, and sequences

Work with the Tool palette and audio meters

Control Timeline tracks

Zoom and position the Timeline

Use keyboard shortcuts

Access shortcut menus

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Lesson 1

Projects and Interface

This lesson will get you started in Final Cut Pro at the project level, just as you would begin an Avid editing session. Projects and sequences are handled a little differently in Final Cut Pro than they are on an Avid Media Composer system. For example, in FCP you can work with multiple projects and sequences open at the same time. Another difference is that in Avid, you are asked to choose among projects from a Select Project dialog, while in FCP, a project is created and opened for you automatically when you open the program. However, both programs allow you to set a preference to automatically start the last project on startup. The FCP interface is similar to Avid's if you compare the functions of each window, although FCP uses different names for some of the same functions.

NOTE ► As in any nonlinear editing (NLE) system, setup configurations are an important part of FCP. In this lesson, you will work with the initial setup window that appears when you open FCP for the first time. All other settings and preferences are addressed in Lesson 3.

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Opening Final Cut Pro

At this point, you should have installed Final Cut Pro on your computer, following the directions that came with the application. You launch FCP in similar ways to Avid Media Composer. On many Avid systems, the program icon is on the desktop, and you double-click to open it. But it can also be accessed in the OS X Dock.

To open Final Cut Pro:

There are four ways to open FCP, depending on how you have configured your computer.

Do one of the following:

- Like in Avid, if you have placed an alias icon of FCP on your desktop, double-click it.
- Double-click the FCP icon in the Applications folder of the Finder window.
- If the FCP icon is in your Dock, single-click it.

Opening Final Cut Pro using any of these methods will open the program with a default project.

- Double-click a saved FCP project file from your hard disk. FCP project files can be aliased to the Dock or saved to the desktop.

NOTE ▶ Avid can be set up to require a user name and password for security and preferences. In FCP, individual user settings are saved via the Mac OS X User functions.

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First Use

While Avid has dedicated scalable architecture that expands the hardware and software capabilities of the system, Final Cut Pro has scalable software that can be used to capture and edit DV, HDV, and certain HD formats via FireWire. You can use third-party hardware to digitize and edit analog, digital, and other HD formats (see Lesson 5); or edit film or 24P using Apple Cinema Tools software (see Lesson 12). The same FCP software can handle all of these situations.

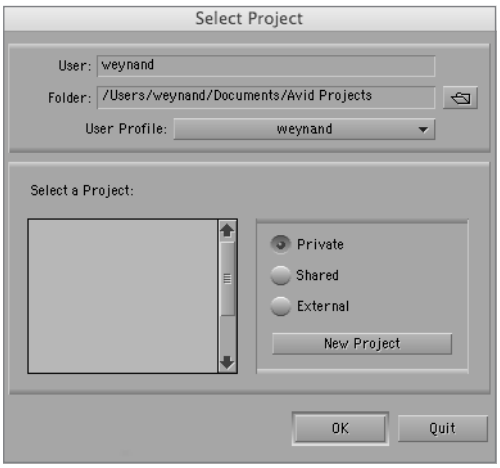
When you open FCP for the first time, an Easy Setup dialog appears in which you set two options to prepare for editing and capturing:

- Easy Setup—Choose a setting that represents your hardware and capture setup.
- Primary Scratch Disk—Choose where you want the media and render files to be saved.

NOTE ▶ These settings can be changed at a later time and are covered in more depth in Lesson 3.

Exploring the FCP Interface

Opening Avid Media Composer takes you to the Select User and Project dialog by default. Opening FCP takes you directly into the FCP interface. Whatever project settings you chose at startup will be applied to this project, although the settings can be easily changed.



You won't encounter this dialog when you open Final Cut Pro.

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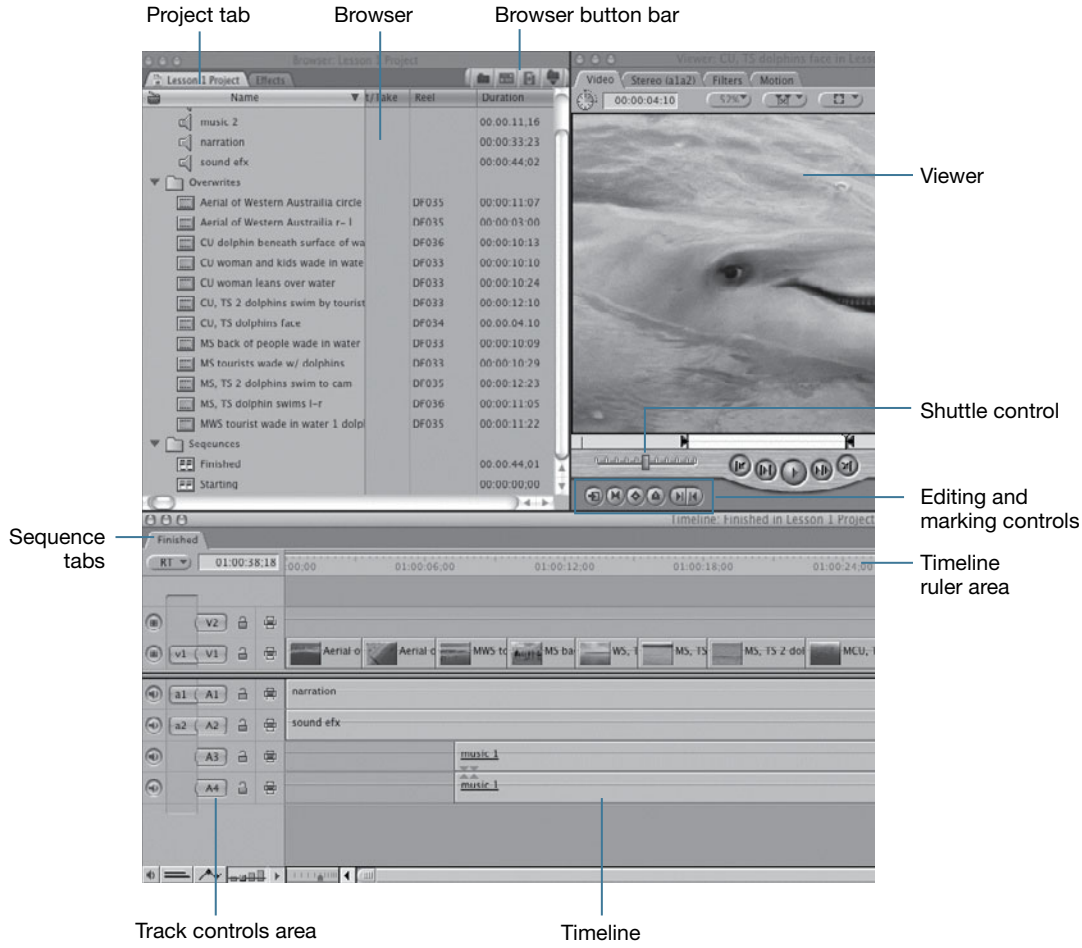

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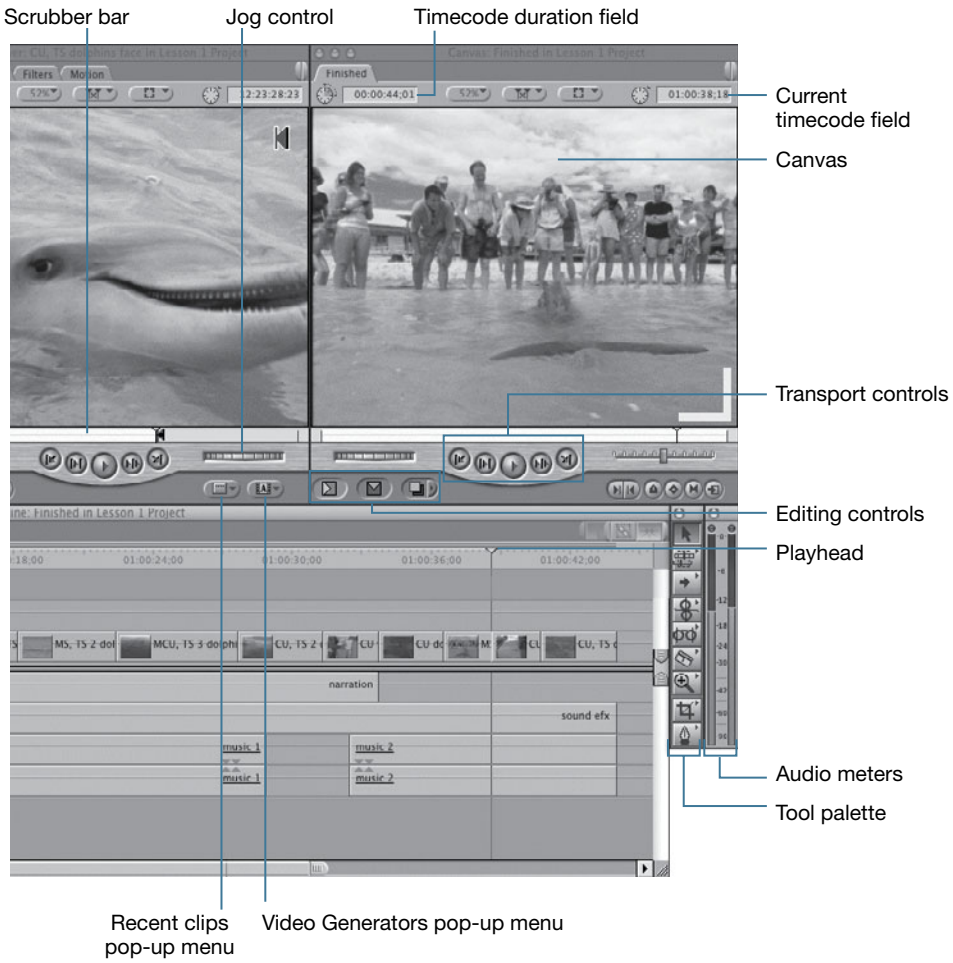

Avid Media Composer often uses a two-monitor display. FCP can display the four primary sections of its interface on a single-monitor (shown on the following spread) or dual-monitor configuration. In a dual-monitor configuration, you can lay out your bin windows more as you would in Avid's Bin monitor.

Each section of the FCP interface is a separate window that you can open, close, and reposition like any other Mac OS X window. When you click in a window, the

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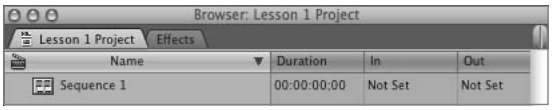
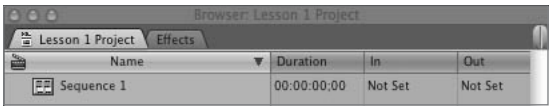
window becomes active, and its title bar looks brighter than the other windows in the interface.



Active Browser window



Inactive Browser window

To explore the interface:

1 Click the Browser window in the upper left of the interface.

This is similar to the Project window in Avid. You can think of it as the project Browser.

2 Click the Viewer window to the right of the Browser.

This is like Avid's Source monitor and can be thought of as a source Viewer.

3 Click the Canvas window to the right of the Viewer.

This is like Avid's Record monitor and can be thought of as a record Canvas.

4 Click the Timeline beneath the Viewer and Canvas.

NOTE ▶ Unlike other Mac OS X windows that appear with red, yellow, and green Close, Minimize, and Zoom buttons, windows opened within Final Cut Pro have gray buttons that match the interface.

You can personalize the window configuration of the interface according to your preferences and the type of editing you are doing, such as narrative editing, compositing visual effects, or mixing or designing audio. In Lesson 3, you will learn how to change the interface layout and create custom layouts.

Working with Projects

Unlike Avid, where you work on only one project at a time, Final Cut Pro allows you to have multiple projects open simultaneously. To contain a group of projects, FCP has a

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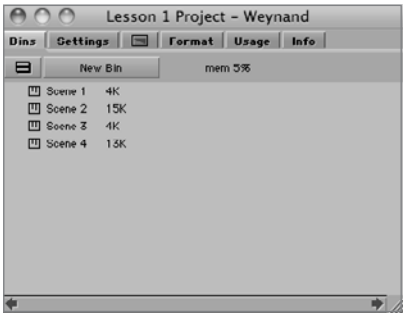
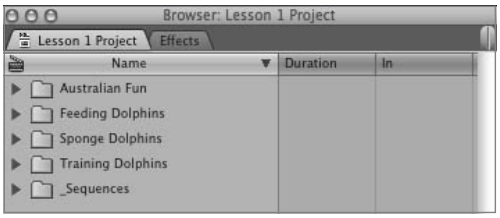
Browser window in which you can simply browse through your projects and the project elements. The Browser serves a similar purpose to Avid's Project window: to contain and organize bins, clips, effects, and sequences.

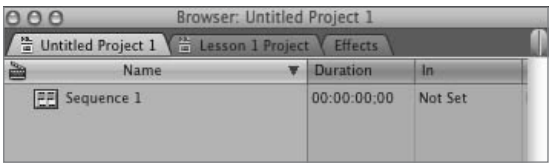


Avid's project window with bins



The FCP Browser window with bins

When you open FCP from its program icon, when no previously saved project was left open, an untitled project will be created automatically with the current settings. FCP uses the default name Untitled Project # for every new project. If you double-click a specific FCP project file from your desktop, that project will open as the program is opened. The name of any open project appears on a folder tab in the Browser window, and each project has its own tab identified by a project icon. A single Effects tab is always present, as discussed in Lesson 9. In the Timeline, open sequences appear as tabs as well.



NOTE ▶ As with Avid, Final Cut Pro can be set to reopen a project automatically if it was saved and left open prior to quitting. This option appears in the User Preferences General tab.

To create, save, open, and close projects:

1 To create a new project, choose File > New Project, or press Command-Shift-N.

A tab for that new project appears in the Browser along with any other projects that may already be open.

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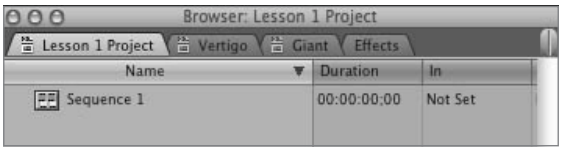
2 To save a project, *do one of the following:*

- To name and save an untitled project, choose File > Save Project As, or press Command-Shift-S.

  When an untitled project is named, the project tab displays the new name.
- To save changes to the active project only, press Command-S.
- To save changes to all open projects, press Command-Option-S.

3 To open a project, choose File > Open, and navigate to the destination on your hard disk. Click Choose to open the project.

A tab for the project appears in the Browser along with any other projects that may already be open, such as the projects titled Vertigo and Giant in the following image.

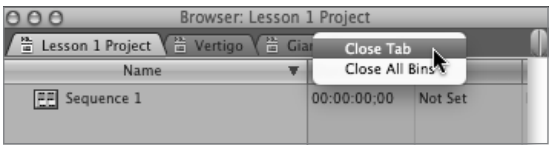


NOTE ▸ When you open a named project, the most recently created untitled project will close automatically.

4 To close a project, *do one of the following:*

- Select its tab in the Browser and choose File > Close Project.

  Press Control-W to close the active (or front) project tab in the Browser.
- Control-click the project tab and choose Close Tab from the shortcut menu.



TIP Like Media Composer, FCP uses shortcut menus throughout the program for easy access to functions and options. These menus are accessed by Control-clicking an item or area in the interface, but they can also be accessed by right-clicking with a two-button mouse.

5 To reorder a project tab, drag the project tab to the right or left of another project tab. When you see the order change, release the tab.

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Creating and Organizing Bins

In Avid, a bin is a container for clips, subclips, effects, and sequences. The same is true in Final Cut Pro, but the icons are different.

Avid	FCP	
		Bin
		Clip
		Subclip
		Sequence

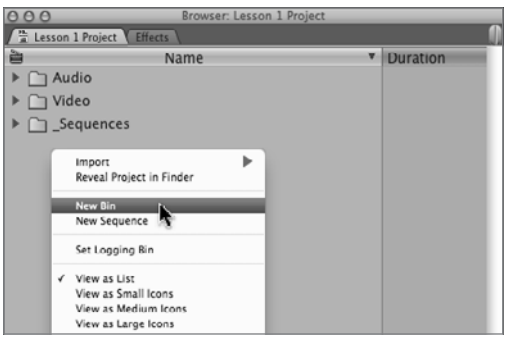
In FCP, the bin container is a folder icon. You organize your bins just as you organize everything else on your Mac: with folders and files. You can drag project elements from the Browser into any bin.

To create a new bin:

You can create a new bin in one of three different ways: by choosing a menu selection, using a keyboard shortcut, or using a shortcut menu option. These three methods represent the multiple ways many FCP functions can be accessed.

Do one of the following:

- Choose File > New > Bin.
- Press Command-B.
- Control-click in the empty Browser gray area under the Name column and choose New Bin from the shortcut menu.



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NOTE ▶ Before creating a new bin with the keyboard shortcut, make sure either the Browser, Canvas, or Timeline window is active.

Like in Avid, when a new bin is created, the name is highlighted. To enter a new bin name, begin typing in the highlighted area. You can apply Apple drag-and-drop methods to place one or more clips or sequences into a bin.

Opening and Closing Bins

Typically, you have to double-click an Avid bin icon to view its contents in a separate window. But in Final Cut Pro, there is another way to see and work with all of your bin contents inside the Browser window. This approach takes up much less space in the interface and allows you to work effectively on one computer monitor. But you can also open a bin as a separate window.

Avid open bins

FCP open bins

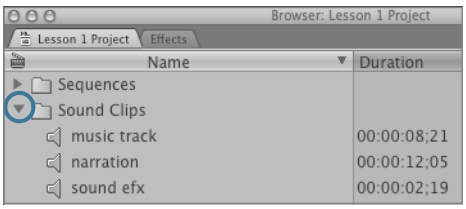
NOTE ▶ Like Avid, FCP offers different bin views. The default view is View as List, like Avid's Text view. See Lesson 3 for more information on changing bin views.

To open a bin:

Do one of the following:

- Double-click a bin to open it as a separate window.

  A bin window can be repositioned anywhere in the interface.
- Click the disclosure triangle next to a bin to view its contents.



Displaying contents like this is an efficient way to utilize screen real estate, especially when working with a single computer monitor.

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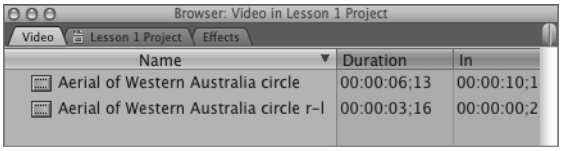
- Option-double-click a bin to open the bin as a tab in the Browser.



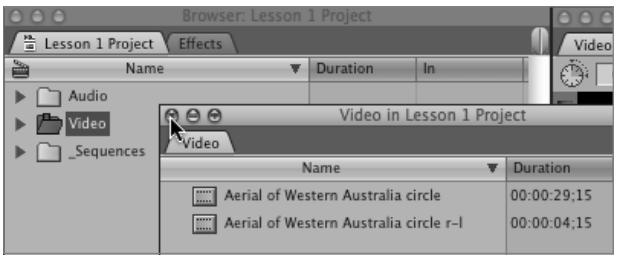
A bin tab appears in the Browser alongside the project tab or tabs. In FCP, you can drag any tab away from the Browser to create a separate window, or drag the tab within the tab area to reorder the tabs.

With multiple bins opened as tabs in the Browser, you can consolidate and view them in a single window, just as with Avid's Super Bin. To view the contents of a bin, click the bin's tab, or press Command-Shift-[(Left Bracket) or Command-Shift-] (Right Bracket) to cycle left or right through the tabs.

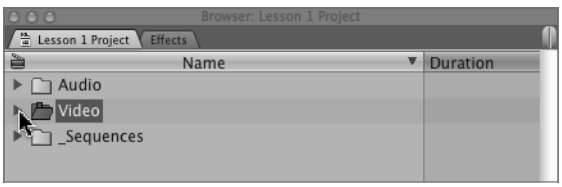
To close a bin:

Do one of the following:

- Click the Mac OS X Close button in the upper-left corner of an open bin window, or select the bin and press Command-W.



- Control-click an open bin's tab and choose Close Tab from the shortcut menu.
- In the Browser, click the project tab, and then click the bin's disclosure triangle.



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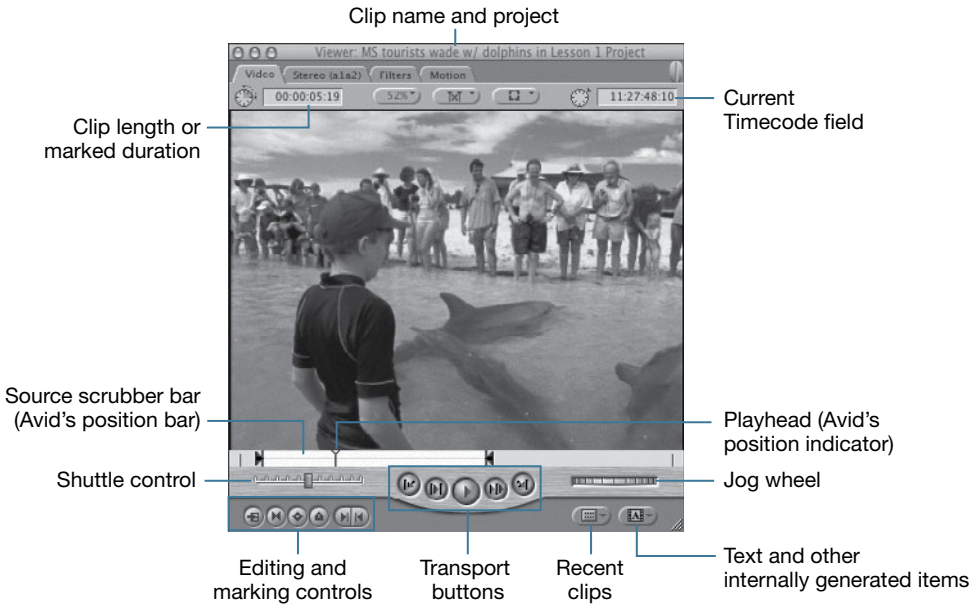
Viewing Source Clips

What Avid calls the Source monitor, Final Cut Pro calls the Viewer. Both are designed to let you view source material and select edit points. However, in the FCP Viewer, you can also create, view, or edit Timeline transitions, effects, mattes, and so on—activities that Avid associates with the Effects Editor. The Viewer has tabs that allow you to access not only the video portion of your clip or material, but also the audio, filters, and motion effects. These tabs and functions will be covered in later lessons, as will playing clips and sequences.



To open a clip in the Viewer:

Do one of the following:

- Double-click the clip in the Browser.
- Drag a clip from a project or bin window and drop it into the Viewer.
- Select the clip you want to open, via the mouse or an arrow key, and press Return.

NOTE ▶ When a clip, bin, or sequence is selected and you press Enter, the name will become highlighted, and you can rename it.

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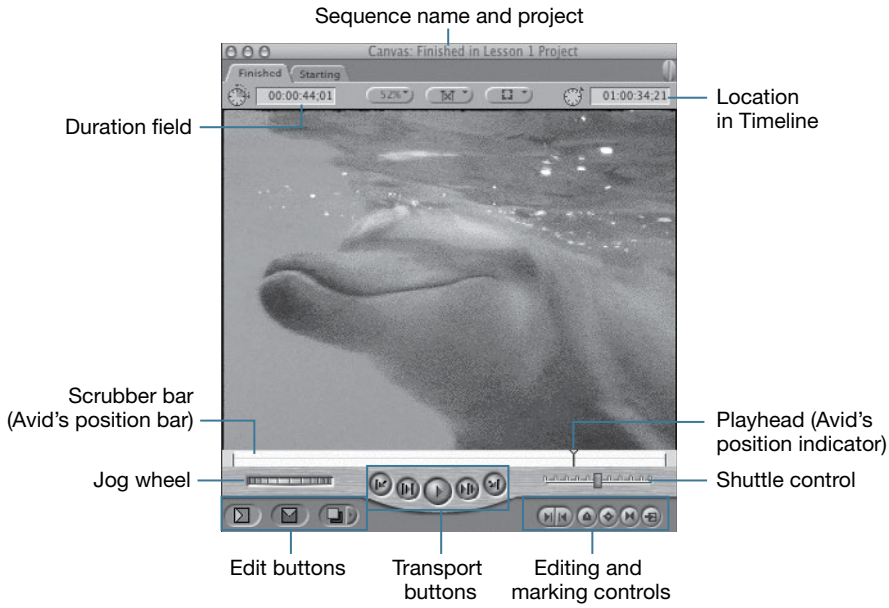
Viewing Sequences

What Avid calls the Record monitor, Final Cut Pro calls the Canvas. The Canvas serves the same purpose as Avid's Record monitor, letting you view your sequence and make or modify edits. The FCP edit buttons, which in Avid appear between the Source and Record monitors, appear on the bottom-left corner of the Canvas window. FCP lets you have multiple sequences open at the same time. As with projects, each sequence has its own tab in the Canvas and Timeline.

NOTE ▶ Some of the functions under the image area in the lower part of the Canvas window mirror those in the Viewer.



Look closely at the FCP icons to familiarize yourself with the FCP interface.

Duration icon and field

Current Timecode icon and field

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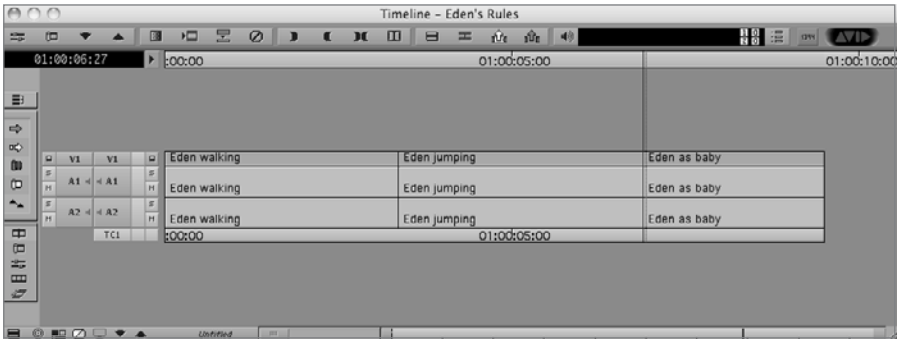
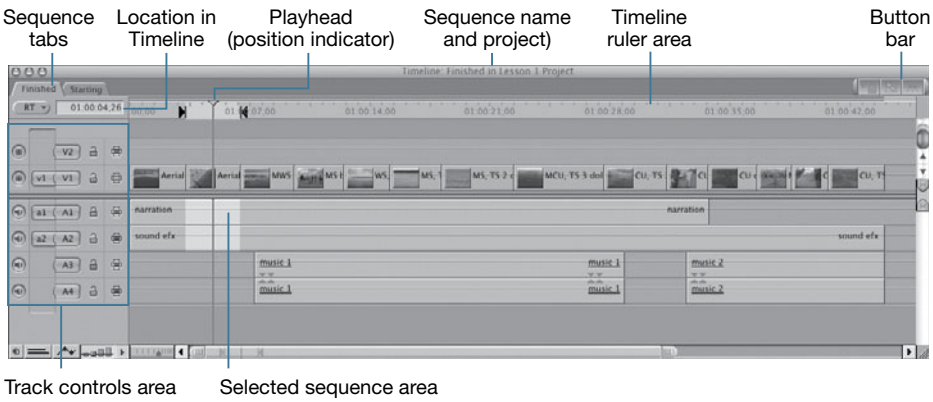
Working with the Timeline

The Timeline windows in Avid and Final Cut Pro are very similar in function and track layout. While you may be more familiar with making an edit to begin a sequence, FCP Timeline tracks appear in any new sequence based upon defaults you set in your User Preferences. In fact, the FCP Timeline window opens with an empty sequence, containing the "factory default" of one video and four audio tracks, whenever you create a new project.



When you create a sequence in Avid, if more than one bin is open, you are prompted to designate the bin in which you will store the sequence. In FCP, you are never prompted to give the sequence a destination. You can organize your sequences in a separate bin or leave them in the Browser where they first appear.



To create a new sequence:

You use the same methods to create a new sequence in the Browser as you did to create a new bin. Once a sequence is opened, it appears as a separate tab in the Timeline, just as it appears in the Canvas.

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Do one of the following:

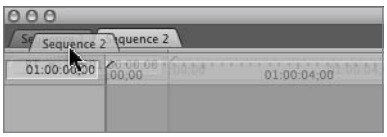
- Click in the Browser, Timeline, or Canvas window and choose File > New > Sequence.
- Press Command-N.
- Control-click in the empty gray area of the Browser under the Name column and choose New Sequence from the shortcut menu.
- To create a new sequence in a specific bin, Control-click that bin and choose New Sequence from the shortcut menu.

You open a sequence as you would a clip, by double-clicking its icon in the Browser, or by selecting it and pressing Return.

NOTE ▶ When all sequences are closed, the Canvas and Timeline windows close as well. Their only purpose is to display open sequences.

To reposition a sequence tab:

- Drag the sequence tab in the Canvas or Timeline window to the right or left of another sequence tab. When you see the tab order change, release the tab in its new location.



Applying Color to Clips, Bins, and Sequences

In Avid, you can choose from an extensive color palette to colorize Timeline tracks. In FCP, however, you don't apply color to individual Timeline tracks, you apply color to bins, clips, and sequences. When you give an item a color label, that color will follow that item into other windows. For example, a sequence with a color label will display a sequence tab with that color in the Canvas and Timeline windows. A clip with a color label will display colored tabs in the Viewer, and so on. In the FCP User Preferences, you can rename the color labels, but you can't change the existing colors.

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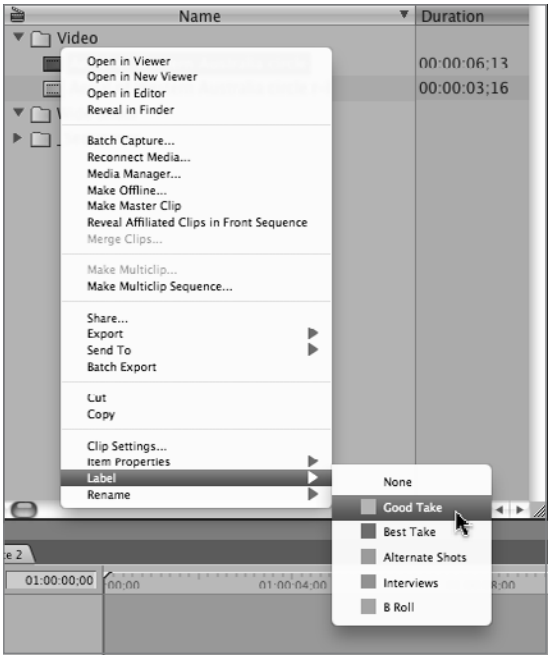
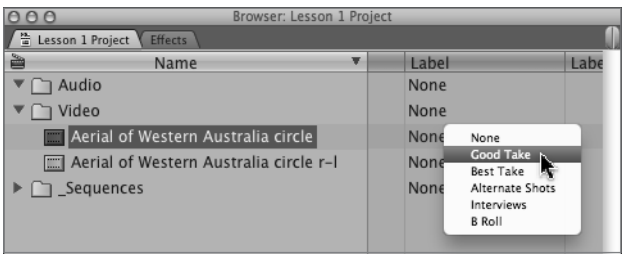
To apply a color label to a bin, clip, or sequence:

- In the Browser, Control-click the bin, clip, or sequence icon and choose Label from the shortcut menu. Then choose a color reference from the Label submenu.



- In the Browser, select the item you want to colorize. Scroll the Browser columns to the right to find the Label column. Control-click in the Label column field for that item and choose the desired color reference from the shortcut menu.



- In the Timeline, Control-click a clip in a sequence and choose Item Properties > Logging Info. Control-click in the Label field for the desired track, and choose a color from the shortcut menu. With this approach, you can colorize individual clip tracks.

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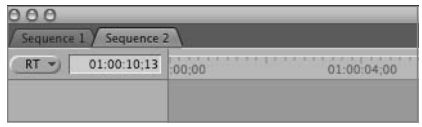
After a color label is applied to a clip or sequence, that color is displayed in the Viewer or Canvas and Timeline windows, respectively.

Clip with color label appears with colored video and audio tabs



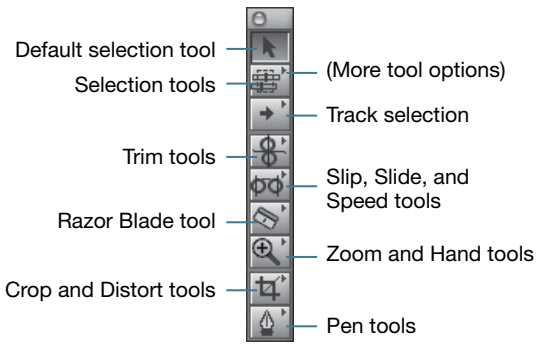
Sequence with color label appears with colored tab in the Timeline and Canvas

Working with Tools and Audio Meters

You select Avid tools by using the keyboard, pressing command buttons, or selecting an option from the Fast menu. Final Cut Pro follows the design of certain desktop graphics programs (such as Adobe Photoshop) by placing editing tools in a Tool palette. This is like tearing off the Fast menu of functions in Avid. The FCP Tool palette provides a convenient way to select many editing operations. In addition, each of the four primary FCP interface windows has its own button bar that you can customize with your personal set of command buttons. This is discussed more in Lesson 3.

Tool Palette

When working within FCP, the default tool is the Selection tool, which is a black arrow. Its shortcut key is the letter A. You use this tool to select clips, transitions, and groups of clips; it's the tool you will work with most of the time. The FCP Tool palette contains editing, selection, and trim tools, as well as other tools, which are covered in upcoming lessons.



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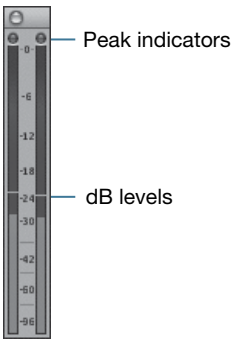
If a tool icon includes a tiny arrow, there are more tools of a similar nature associated with that tool. Click and hold a tool icon to see those options. Some tool icons, such as the Zoom In (magnifying glass), Crop, and Pen tools, may look familiar if you have worked in desktop graphics programs. These tools perform the same functions in FCP.

TIP To see what a tool icon represents, hold the cursor over it with your pointer. The name of the tool and the shortcut key will appear as a tooltip. Tooltips with keyboard shortcuts will also appear over most buttons in the interface. While this option is turned on as a default, you can toggle tooltips off or on in the User Preferences window (Option-Q).

Audio Meters

The FCP audio meters do only one thing: display your audio levels. You can choose to keep the audio meters open all the time or just when you're working with audio levels. Unlike in Avid, neither the Audio Meters window nor the Tool palette can be resized. In addition to the audio meters, FCP has an Audio Mixing tool that you can use to monitor and control audio levels; it's covered in Lesson 8.



NOTE ▶ All FCP interface windows can be closed independently by clicking their Mac OS X Close buttons. In the Window menu, you will find keyboard shortcuts to close and open individual windows.

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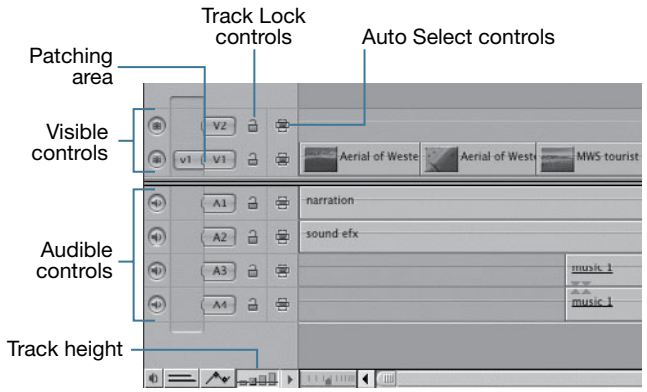
Controlling Timeline Tracks

Like Avid, Final Cut Pro gives you certain controls over your Timeline tracks. However, there are some minor differences. For example, Avid lets you assign different colors to each track, whereas FCP lets you assign a color to a clip as discussed in "Applying Color to Clips, Bins, and Sequences." You enter timecode numbers and durations in FCP using the same protocol as Avid. Instead of pressing F at the end of a number entry for frames, however, you right-click in the Timeline location field or ruler area to change the display to frames or feet and frames. In FCP, as in Media Composer, controls to lock tracks, patch tracks, turn tracks off or on so they won't be seen or heard, and change track height all appear in the Timeline track area, in the left side of the Timeline.



To control Timeline tracks:

Most of the Timeline track controls toggle a function off or on, just as they do in Avid.

Do one of the following:

- To lock a track, click the Lock Track control for that track.
- To turn the sound of an entire track off or on, toggle the Audible control for that track.
- To turn video of a track off or on, toggle the Visible control for that track.

  NOTE ▶ When a Timeline track is not currently audible or visible, it appears dark.

- To change track height, click the Track Height control in the Timeline. You can also press Shift-T to toggle the options. (Lesson 3 covers more ways to change Timeline tracks dynamically.)

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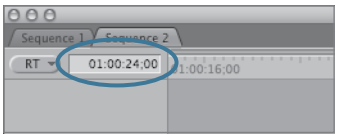
- To go to a timecode location, click and type the timecode in the Timecode Location field, in the upper left of the Timeline beneath the sequence name tab. If nothing is selected in the Timeline, simply typing a timecode number enters it into this field automatically.

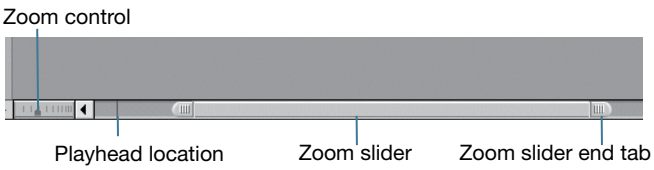


TIP As in Avid, typing a + (plus sign) or – (minus sign) before the number will move the playhead a relative amount forward or backward in the Timeline.

Zooming and Positioning the Timeline

Except for minor differences in terminology, you'll find many similarities in how Avid and Final Cut Pro let you size and position the Timeline. Both use a combination of sliders and keyboard shortcuts. Although FCP does not have a specific focus button or zoom section function, there are several ways to zoom and position a sequence in the Timeline.

The FCP zoom slider, which looks a lot like Avid's position slider, can both zoom and position. Zooming in or out of the FCP Timeline always occurs around the playhead (position indicator) position.



NOTE ▶ Some zoom options can also be selected from the View menu.

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To zoom and position the Timeline:
Do any of the following:

- Move the zoom control to the left to zoom in (More Detail) or to the right to zoom out (Less Detail).
- Move the zoom slider left or right to move the sequence left or right, respectively.
- Drag either end tab of the zoom slider to expand or contract the sequence.
- To zoom in where the playhead is parked, press Option-+ (plus sign). To zoom out from where the playhead is parked, press Option-– (minus sign). If a clip is selected, you will zoom into the selected clip or clips, because FCP prioritizes selection over playhead position.
- If the playhead has moved out of view, click the thin purple line in the zoom slider area until the playhead comes back into view. The thin purple line indicates where the playhead is parked in relationship to the entire sequence.

- To magnify an area, select the Zoom In tool from the Tool palette, or press Z. Then either click directly on a clip or drag a marquee across several clips in the sequence (as you would using Command-M in Avid). To zoom out, press Option as you click the Zoom In tool.

  TIP To zoom into a particular clip or clips, select the clips and press Shift-Option-Z.

- In addition to using the zoom slider to move the sequence left or right, you can use a mouse scroll button or trackball to scroll through the sequence. You can also use the Hand tool, which shares position in the Tool palette with the Zoom tool.

- To display the entire sequence in the Timeline, press Shift-Z.
- The pointer, or default Selection tool, is the tool you will use for all basic editing functions. To get back to it, press A.

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TIP When working with a laptop trackpad, multi-touch gesture options will scroll the Timeline (two-finger swipe left or right) or move the playhead to the previous or next edit (three-finger swipe left or right). You can also pinch to zoom in and out of the Timeline.

Using Keyboard Shortcuts

Like Avid, Final Cut Pro allows for the keyboard to be mapped to your personal preferences. Keyboard enthusiasts will find that almost every FCP function has an assigned keyboard shortcut. These shortcuts employ the four keyboard modifier keys: Shift, Control, Option, and Command (Apple).

FCP organizes its keyboard shortcuts around specific functions. It may give one function a letter and then use different modifier keys with that same letter to produce similar options. For example, note the different shortcuts for screen layouts (Window > Arrange) that combine the U key with modifier keys.

Another example is the shortcuts for Undo and Redo found in the Edit menu. Undo is Command-Z, and Redo is Command-Shift-Z. FCP can have up to 99 undo steps or levels.

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The number of undos in FCP can be changed in the User Preferences window, which you can access via the Final Cut Pro menu. This menu is another example of how you can access several settings using the same key, in this case Q, with one or more modifiers.

What You've Learned

- You can open Final Cut Pro by double-clicking its icon in the Finder window, clicking its icon in the Dock, double-clicking an alias on the desktop, or double-clicking an FCP project file.
- FCP interface windows can be opened and closed like other OS X windows and can be repositioned anywhere in the interface.
- Unlike in Avid, you can have multiple projects open in FCP at the same time, and you can also work with multiple sequences from different projects.
- The FCP interface windows are similar to Avid: The Browser is a combination Bin viewer and Project window; the Source monitor is called the Viewer; and the Record monitor is called the Canvas.
- Project and sequence names appear on tabs in appropriate windows.
- Bins appear as folder icons.
- You create a new bin by choosing File > New > Bin, pressing Command-B, or Control-clicking to open a shortcut menu.
- To view bin contents, you can double-click a bin to open it as a separate window, click the disclosure triangle next to a bin, or Option-double-click a bin to open it as a tab in the Browser.
- In FCP, you can drag any Browser tab to create a separate window.
- In the Viewer, you can view source material; select edit points; or create, view, and edit transitions and effects.
- You can open a clip in the Viewer by double-clicking it in the Browser, dragging it from a bin into the Viewer, or selecting it and pressing Return.
- In FCP, the Timeline window opens with an empty sequence when you create a new project.
- You can create a new sequence in the Browser by choosing File > New > Sequence, pressing Command-N, or Control-clicking to open a shortcut menu.

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- You can open a sequence by double-clicking its icon or selecting it and pressing Return.
- You can add a color label to any clip, bin, or sequence. The clip and sequence colors appear on the clip or sequence tabs in the Viewer or Timeline and Canvas windows.
- You can reveal the name and keyboard shortcut for any tool or button by moving the pointer over a tool or button to open a tooltip.
- The Timeline track area is where you control certain aspects of each track by performing tasks such as locking it, turning the monitoring of sound or image off or on, and so on.
- You can zoom into a Timeline using the zoom scale control, the Zoom In tool, or keyboard shortcuts. You can reposition it using the zoom slider or Hand tool.
- You can use multi-touch gestures to zoom and navigate the Timeline.
- You change the number of undos in the User Preferences window.

Keyboard Shortcuts

Command-Shift-N	Create a new project
Command-Shift-S	Rename and save a project
Command-S	Save changes to the current project
Command-Option-S	Save changes to all open projects
Command-O	Open a project
Control-click	Open a shortcut menu
Command-B	Create a new bin
Command-W	Close an active window
Control-W	Close the current tab in the active window
Command-N	Create a new sequence in the Browser
Shift-T	Cycle through different track heights

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Keyboard Shortcuts

Option-+ (plus sign)	Zoom in at the playhead position or selected area
Option-– (minus sign)	Zoom out at the playhead position or selected area
Z	Select the Zoom In tool to enlarge the view
Option-Z	Convert the Zoom In tool to the Zoom Out tool to shrink the view
Shift-Z	Fit the entire sequence in the Timeline window
Shift-Option-Z	Expand the selected clip or clips to fit in the Timeline window
H	Select the Hand tool
Command-Z	Undo the most recent step or action
Command-Shift-Z	Redo the most recent undo step
Option-Q	Open the User Preferences window

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2

Goals

Use play commands

Use mark commands

Patch tracks in the Timeline

Perform overwrite and splice edits

Snap in the Timeline

Enable visual overlays

Create subclips

Lift and extract clips

Perform L-cut and split edits

Add additional tracks

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Lesson **2**

Translating Basic Editing Skills

Translating your basic Avid editing skills to Final Cut Pro is going to be like driving someone else's car. It may not be as comfortable as driving your own at first, but all of the equipment does pretty much the same thing, and it gets you where you're going. Think of this lesson as your first test drive around the block—no long road trips just yet. Those will come later. Here you will learn to put together a cuts-only, bare-bones sequence. You will master parts of the editing interface, view clips, mark them, learn different ways to make overwrite and splice edits, and make Timeline adjustments.

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Using Play Commands

If you compare the Avid and Final Cut Pro play and mark commands, you will notice that, in the default window layouts, Avid has more command buttons on the interface, but FCP has more keyboard shortcuts. However, each system will allow you to map additional functions within the interface. As in Avid, the spacebar in FCP is conveniently used to start and stop play in the Viewer, Canvas, or Timeline. You may gravitate to the FCP keyboard shortcuts, or you may prefer sticking with the command button approach. FCP also offers an additional approach to editing that allows you to spend more time making edits and editorial changes directly in the Timeline itself. Timeline editing is covered in Lesson 6.

Avid command buttons in Source monitor

Just as the Avid Play buttons are located beneath the Source and Record monitors, the Play buttons in FCP are located beneath the Viewer and Canvas image areas.

FCP transport controls

Transport controls in Viewer

You will find many similarities in how Avid and FCP play your clips and sequences. In fact, if you take a close look at the Play buttons, you will see that they look very much alike.

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TIP As in Avid, when you move your pointer over a specific button, a tooltip will reveal the function of the button, but the FCP tooltip also lists its keyboard shortcut. This is a good way to become familiar with many of the functions in the FCP interface.

Avid	Final Cut Pro	Function	FCP Keyboard Shortcuts
		Play	Spacebar (starts and stops a clip or sequence)
		Previous/next edit	Up and Down Arrow keys and the ; (semicolon) and ` (grave) keys
		Play In to Out	Shift-\ (backslash)
No button		Play around current frame	\ (backslash)
	No button	Play here to Out	Shift-P
	No button	Step 1 frame	Left and Right Arrow keys; K+J and K+L
	No button	Step 10 frames	Shift-Left Arrow or Shift-Right Arrow key (moves one second); shuttle control moves desired number of frames

NOTE ▶ In FCP, the Home and End keys work the same as they do in Avid.

FCP also uses the J, K, and L keys on the keyboard. The only difference is that in FCP, if you have pressed the J or L key multiple times to increase the speed, pressing the opposite key will reduce the speed in increments rather than reverse the direction of play. To use these keys as you would in Avid, press the K key first and then press the opposite key to reverse the play direction.

TIP To enable a clip or sequence to loop playing after it reaches the end, choose View > Loop Playback, or press Control-L. This toggles looping off or on for play functions (including Play In To Out and Play Around Current Frame) within the Viewer, Canvas, and Timeline.

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Using Mark Commands

In FCP, you will find fewer dedicated mark buttons in the Viewer and Canvas than in Avid's Source and Record monitors. For example, the default Avid mark buttons include a Clear Marks button and a Go To Mark button, whereas FCP relies on keyboard shortcuts for these functions. However, you do always have the option of mapping additional mark commands to the appropriate keys, which is discussed in Lesson 3.

All of the FCP play and mark shortcuts work for a clip in the Viewer or a sequence in the Canvas or Timeline and follow the same protocol as in Avid. The mark, play, and Go To keyboard shortcuts can be found on the Mark menu.

Avid mark buttons and position bar

FCP mark buttons and scrubber bar

In the following list, only the FCP mark buttons that are present in the default layout are listed. Placing new buttons for marking and other functions is covered in Lesson 3. But as the list shows, most FCP mark functions have keyboard shortcuts. Again, note the similarities between the buttons.

Avid	Final Cut Pro	Function	FCP Keyboard Shortcuts
		Mark In/Out	I or O
		Mark clip	X
	No button	Clear In/Out	Option-I or Option-O
	No button	Clear In and Out	Option-X
	No button	Go to In or Out	Shift-I or Shift-O

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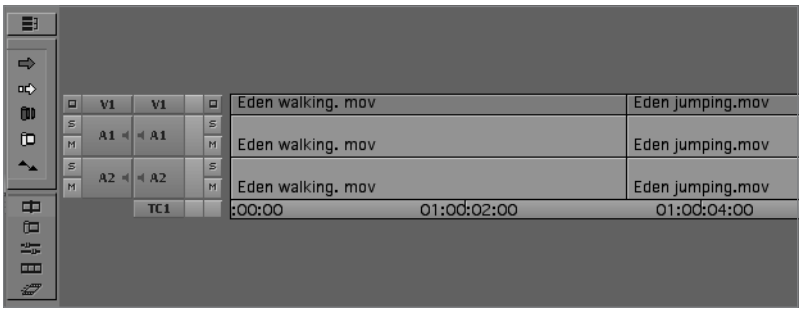
TIP You can also clear marks by using the Mark menu, Control-clicking (or right-clicking) in the Viewer scrubber bar or Timeline ruler area, or pressing Option plus the Mark In, Mark Out, or Mark Clip buttons in the Viewer or Canvas.

Patching Tracks in the Timeline

Before making an edit, you want to make sure the source track is targeted to the correct audio or video track in the Timeline. The process in Final Cut Pro is very similar to Avid. However, what Avid calls record tracks, Final Cut Pro calls destination tracks. Also, both applications use menu options or shortcuts to create or add new tracks.



Avid Timeline tracks

When you open a clip into the Viewer in FCP, the clip's audio and video source tracks are represented in the Timeline track area by an individual source control for each track. For example, if a clip contains only one track of video and one of audio, just a v1 and an a1 source control appear. If you hold your mouse over one of the source controls, the word *Source* appears. Source controls use a lowercase *v* for video and a lowercase *a* for audio. To the right of the source controls are destination controls, which use an uppercase *V* for video and *A* for audio.

Source control tooltip

Destination track tooltip

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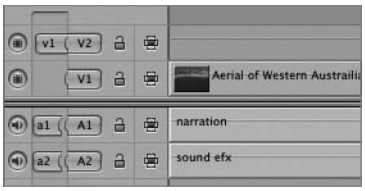
To patch a source track to its destination:
Do one of the following:

- Drag a track source control to the desired destination track.
- Control-click a source control and choose the desired destination track from the shortcut menu.
- Control-click the desired destination control and choose the desired source from the shortcut menu.

Dragging source control to V2 destination track

Using shortcut menu to choose destination track

TIP To make a video- or audio-only edit, click a patched source control to disconnect it from its destination track.



Performing Overwrite and Insert Edits

Avid has two primary edit types: overwrite and splice. In Final Cut Pro, the two primary edits do the same thing, but what Avid calls a splice edit, FCP calls an insert edit. Both Avid and FCP use a graphic display to demonstrate how that edit will lay a clip into the Timeline, and both share the same colored edit buttons. Although not the same, both have dedicated shortcut keys for these functions. You will learn to remap these shortcuts in Lesson 3.

Avid Splice and Overwrite buttons

FCP Insert and Overwrite buttons

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You prepare an edit just as you would in Avid—by marking the clip, checking to see that the clip's source track is assigned to the proper destination track in the Timeline, and making sure that the playhead (position indicator) is parked where you want to place the new clip. You can also mark an In and/or an Out point in the Timeline or Canvas as you would in Avid.

To make overwrite and insert edits:

While many Avid editors perform an overwrite or insert edit using the keyboard shortcuts or edit buttons, FCP uses these and other methods to perform those edits.

Do one of the following:

- Click the red Overwrite or yellow Insert (Splice) edit button.

FCP Canvas edit buttons

NOTE ▶ The FCP edit icons reflect the direction and consequences of the edit. Insert pushes edits over, and Overwrite lays down edits on top of what's already in the Timeline.

- Press F9 to make an insert edit (Avid's V key) or F10 to make an overwrite edit (Avid's B key). If you are working on a laptop, hold down the Fn key in the lower left of the keyboard in addition to the function keys.

TIP These function keys are also used in Mac OS X Exposé functions to show and hide programs and documents on your desktop. You can remap these editing functions to the familiar Avid V and B keys, or change the Exposé defaults in Apple System Preferences.

- Drag the clip image from the Viewer onto an edit button in the Canvas.
- Drag the clip image from the Viewer into the Canvas window. When the Edit Options overlay appears, release the clip onto the red Overwrite or yellow Insert option.

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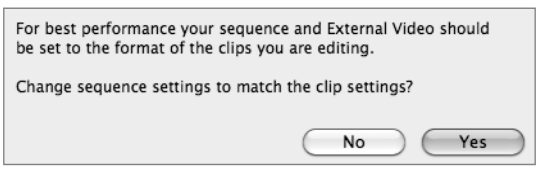
FCP Canvas Edit Overlay

You can also drag a source clip from the Viewer, or even from the Browser, directly into the Timeline. This approach is covered in detail in Lesson 6.

Conforming Sequence Settings

In Final Cut Pro, settings are attached to individual sequences—not projects. So after you initiate the first edit into a new sequence, Final Cut Pro will detect if the format of the clip you are editing matches the format settings of the active sequence. If they do not match, the clip will not be edited immediately. Instead, FCP will display a dialog asking if it should change the sequence settings to match the clip. This is, of course, what you will want to do most of the time.


For best performance your sequence and External Video should be set to the format of the clips you are editing.
Change sequence settings to match the clip settings?
No
Yes

Automatic Sequence Conform dialog on first edit of new sequences

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If you choose No, the Apple Open Format Timeline feature (as with Avid's Mix and Match) will conform the clip's frame size and frame rate to match the sequence settings. In most cases, this will be a real-time process, but must be rendered before final output. Regardless of your choice, after the first clip is edited to the sequence, every subsequent clip will be conformed to match the sequence settings.

To conform sequence settings on first edit:

1. After choosing an edit option—such as Overwrite or Insert—click Yes in the Automatic Sequence Conform dialog to change the sequence settings to match the clip you are editing.

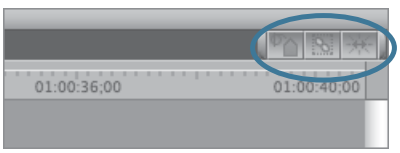
   As in Avid, the edited clip is placed in the sequence, and the playhead (position indicator) moves to the end of the new clip.

2. To change the default to *always* conform sequence settings on first edit (without a prompt), choose Final Cut Pro > User Preferences and click the Editing tab. In the Auto Conform Sequence pop-up menu, choose Always.

   NOTE ▶ If your first edit does not represent the format settings you want for the sequence, you can choose the appropriate settings in the Easy Setup dialog discussed in Lesson 3.

Snapping in the Timeline

In the Avid Timeline, you snap the position indicator directly to an edit point by holding down the Command key as you drag. You may also be accustomed to other snapping alternatives, such as holding down the Command key with the Option key to snap the position indicator to the tail of a clip. In Final Cut Pro, you can turn the snapping function off or on by using a shortcut key or clicking the dedicated Snapping button located in the customizable button bar in the upper-right area of the Timeline. (There is a button bar for each of the four primary windows.) You will learn how to customize button bars in Lesson 3.



Timeline button bar

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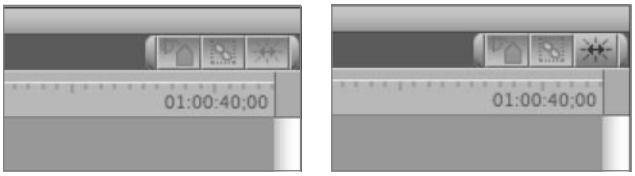
The FCP Snapping button is a tiny image of two opposing arrows. When active, the Snapping button is green and appears somewhat concave. If you click to make it inactive, the image turns gray and appears convex.



Snapping on Snapping off

When snapping is on, the FCP playhead will snap to the first frame of a clip in the Timeline, a mark point, a keyframe, or a locator you may have placed in a clip or sequence. The playhead will snap to all tracks being monitored. If you don't want to snap to a particular track, toggle off the Visible or Audible control for that track.

To turn snapping off and on:
Do one of the following:

- In the Timeline button bar, click the Snapping button.
- Choose View > Snapping.
- Press N.

TIP You can press N to toggle snapping off or on while you are moving the playhead and performing other editing functions, such as slipping, sliding, or trimming.

When snapping is active, and you drag the playhead over an edit point, mark, keyframe, or locator, little brown triangles appear in the Timeline on either side of the playhead. Also, the stem of the playhead appears thicker. When snapping is off, the triangles do not appear, and the playhead remains thin.

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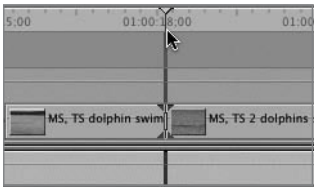
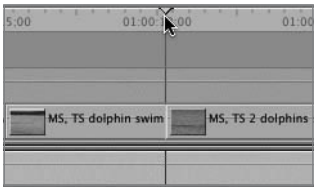


Playhead snapping to edit point



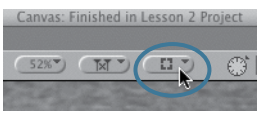
Playhead over edit point with snapping off

TIP Although the playhead does not snap to the tail of a clip, you can snap to the head of a clip and press the Left Arrow key to go backward one frame.

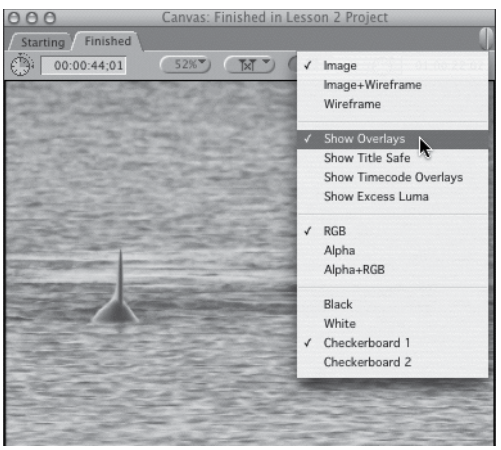
Enabling View Overlays

Avid users are no strangers to timecode registers accessible above the Source and Record monitors. Information displayed can include clip info, timecode, clip duration display, and so on. Like Avid, Final Cut Pro has visual overlays that show certain aspects of a clip when the playhead is parked on a frame in the Viewer or Canvas. An FCP overlay could indicate that you are parked on the first or last frame of an edited clip in the Timeline, the last frame of the sequence, or the first or last frame of source material. You can also view source timecode In and Out points, and other helpful information.

These overlays are included in the View pop-up menu options in the Viewer and Canvas and can be toggled off or on during the editing process. You can also select these options from the View menu in the menu bar. There are clip overlays that appear in the Timeline to display audio levels, keyframes, and so on. Those will be discussed in Lesson 8. Overlays can be toggled off or on during the editing process.



View pop-up button



View options

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To make visible any of the possible overlays in either the Viewer or Canvas, the Show Overlays option must be selected. After you select it, you can then select any or all of the overlay options below it. (Each section of the View pop-up menu will be discussed at the appropriate time throughout this book.)

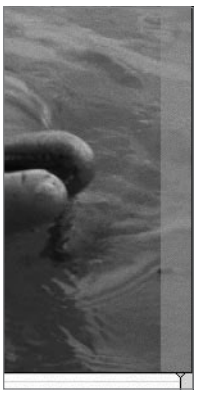
To see all of the overlays or visual indicators listed below, make sure the Show Overlays option is selected in both the Viewer and Canvas, but turn off all other "Show" overlays in the View pop-up menu for the moment.

To see additional Canvas overlays:

1. In the Canvas, click the View button and make sure Show Overlays is selected.
2. To see the appropriate overlay in this default setting, *do any one of the following:*
   - Move the playhead to the first frame of a clip in the Timeline and look for an L in the lower left of the screen.
   - Move the playhead to the last frame of a clip and look for the reverse L in the lower right of the screen.
   - Move the playhead to the end of the sequence to see the blue end-of-sequence bar.

First frame indicator

Last frame indicator



End of sequence

3. To see a display of timecode for all video and audio tracks, as well as timecode for sequence In and Out points, click the View pop-up menu and choose Show Timecode Overlays. You can also choose View > Show Timecode Overlays, or press Option-Z.

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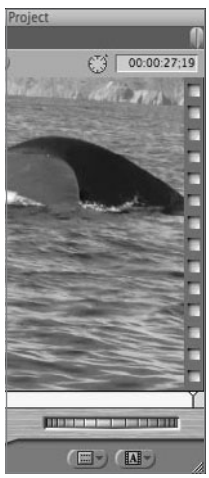
To see additional Viewer overlays:

1. Open a clip in the Viewer, and in the View pop-up menu, make sure Show Overlays is chosen.

2. *Do one of the following:*

   - Move the playhead to the head of the clip to see the left-side film strip or beginning-of-clip indicator.
   - Move the playhead to the tail of the clip to see the right-side film strip or end-of-clip indicator.

Beginning-of-clip indicator



End-of-clip indicator

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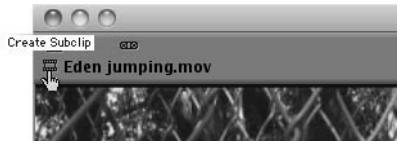
Creating Subclips

In Avid, you create a subclip by marking a clip and dragging the clip icon from the Source monitor back to a bin, or clicking the Create Subclip button. In Final Cut Pro, you use a keyboard shortcut or menu selection, which automatically places the new subclip in the original clip's bin. In addition, you can create a subclip from a portion of a sequence, and even remove a subclip's limits if you want to use more of the master clip material.



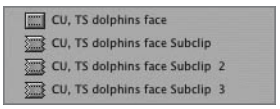
Creating Avid subclips

To create a subclip from the Viewer:

1 Open a clip in the Viewer.

2 Mark an In and an Out point for your new subclip.

3 Choose Modify > Make Subclip, or press Command-U.



In the Browser, a new subclip is created and placed automatically beneath the clip from which it was created. An FCP subclip is always named after the original clip, and like in Avid, each new subclip created from that master clip is given a subsequent number.

To create a sub-sequence from the Timeline:

As in Avid, you can also create a "sub-sequence" by marking a portion of a sequence in the Timeline and then choosing the Make Subclip command. This action automatically creates a new sequence for you with the pasted material.

1 Mark In and Out points around the portion of the Timeline you want to copy.

2 Choose Modify > Make Subclip, or press Command-U.

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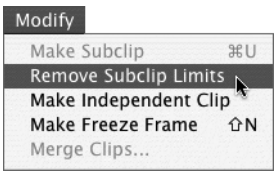
In the Browser, a new sequence is created with just the subclip material. The sequence is named after the sequence in which you created the subclip.

To remove subclip limits:

In Avid, while a subclip loaded into the Source monitor has limits, once cut into a sequence it behaves like any other clip, allowing full access to media handles. In FCP, when you create a subclip, it becomes its own master clip. If you need to access the original master clip material from which you created the subclip, you can remove the limits of the subclip. This literally changes the subclip in the Browser back to the full length of the original master clip. In the Timeline subclip, you now have access to that material.

1 Select the subclip in the Timeline or open it in the Viewer.

2 Choose Modify > Remove Subclip Limits.



You will now be able to trim or add transitions, and so on. You can undo this step, but once you remove the limits of the subclip, you no longer have a clip that represents the original subclip markings.

Lifting and Extracting

Lift and Extract work the same way in Final Cut Pro as they do in Avid, though the terminology is a little different. The FCP terms are Lift and Ripple Delete (Extract). FCP also provides some helpful selection tools you can use to identify the area you will lift or extract.

Avid 5 Lift and Extract buttons

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Selection Options

You can apply the Lift and Ripple Delete functions to a number of targets:

- An individual clip
- A group of adjacent clips (click the first clip and Shift-click the last clip in the group)
- A group of nonadjacent clips (click the first clip and Command-click each additional clip)
- Between In and Out points in the Timeline on any Auto Selected tracks

NOTE ▶ The default Selection tool (A) can be used to select all of these targets except for a range between In and Out points. To select between In and Out points, you must set edit points, and then select tracks using Auto Select controls.

TIP To lift or extract a range of material between In and Out points on a specific track, Option-click the Auto Select control in the Timeline track area for that track to solo Auto Select it. Click additional Auto Select controls for each track you want to include in the lift or extract.

To lift material from the Timeline:

1. Select the clip, group of clips, or material range using In and Out marks.
2. Choose Sequence > Lift, or press Delete.

To extract material from the Timeline:

Do one of the following:

- Select the clip, group of clips, or material range and choose Sequence > Ripple Delete, or press Shift-Delete.
- Control-click a clip in the Timeline and choose Ripple Delete from the shortcut menu.

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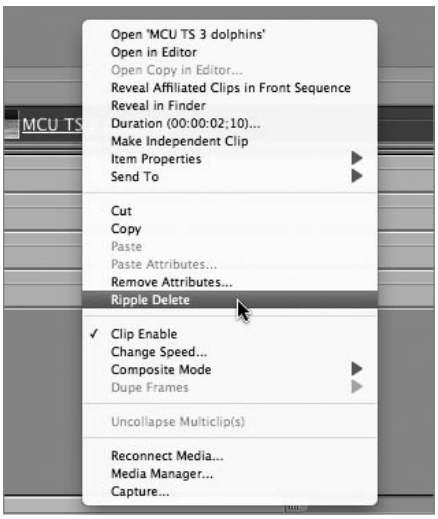
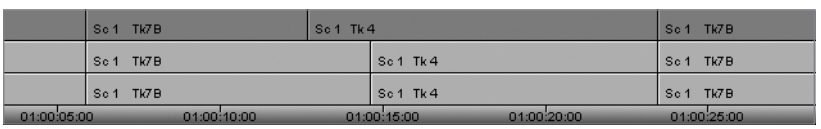
TIP Unlike Avid, when using the Lift and Ripple Delete functions FCP does not place the lifted or extracted material into the clipboard memory. If you wish to do this—to paste it elsewhere, for example—substitute Cut (Command-X) for Lift and Ripple Cut (Shift-X) for Ripple Delete.



Performing Split Edits and L-Cuts

Avid provides several ways to perform a split or L-cut edit. In Final Cut Pro, you also have several options. You can mark any of the four points of a split edit by choosing a menu option, using shortcut keys, or dragging the mark points directly in the Viewer or Timeline. You can also create split edits very easily using Trim commands (covered in Lesson 4), and by using the Extend Edit command (covered in Lesson 6).



Avid L-cut edit

There are two different menus that have Mark Split and other Mark options: the Mark menu and a shortcut menu that appears by Control-clicking the Viewer or Canvas scrubber bar. The keyboard shortcuts for split edits use I and O along with modifier keys. You can create an L-cut or split edit in the Viewer or the Timeline.

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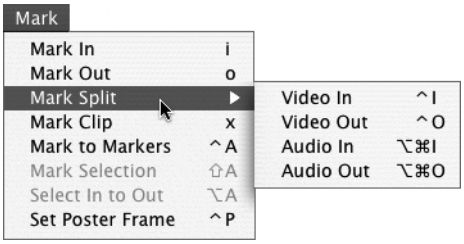
To mark a split edit:

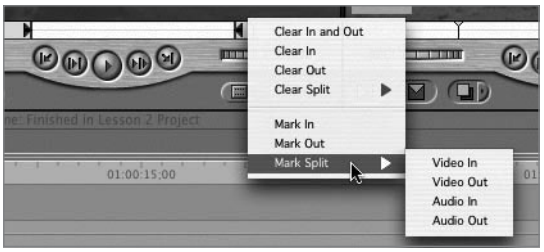
1 Park the playhead, either in the Viewer or the Timeline, where you want to place an edit point.

2 *Do one of the following:*

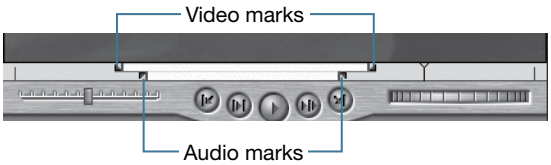
- Choose Mark > Mark Split and choose an edit point option.



- Use the keyboard shortcuts from the Mark > Mark Split menu.
- Control-click the Viewer or Canvas scrubber bar and choose an edit point option from the shortcut menu.



- Set an edit point in the Viewer, Canvas, or Timeline. To adjust just the video aspect of the mark, Option-drag the upper portion of either the In or Out mark. To adjust just the audio, Option-drag the lower portion of either mark.



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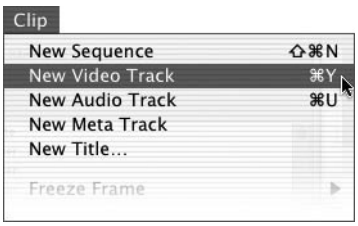
NOTE ▶ To remove a split edit point, choose Mark > Clear Split and choose one of the options, or clear both parts of the audio or video split by using Option-I or Option-O, and rebuild the split.

Adding and Deleting Tracks

Avid's commands for new video and audio tracks are Command-Y and Command-U, respectively. There is no corresponding default keyboard shortcut in FCP for adding or deleting tracks, but there are several other ways you accomplish the task. You can even add a specific number of tracks to the Timeline at one time. In Avid, you can have 24 video tracks and 24 audio tracks. FCP allows you to have up to 99 tracks of video and 99 tracks of audio.



Avid New Track options

To add or delete tracks:

Do one of the following:

- Choose Sequence > Insert (or Delete) Tracks. In the Insert Tracks window, select the number and type of tracks you want to insert (or delete), and where you want them placed. (You can never delete the V1 or A1 track.)

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- Control-click in the Timeline track area above the highest video track or below the lowest audio track. From the shortcut menu, choose Add Track to add a new track.

- To delete a track, Control-click that track in the track control area and choose Delete Track from the shortcut menu. (V1 and A1 tracks cannot be deleted.)

In Lesson 6, you will learn how dragging clips directly to the Timeline can create a new track automatically.

What You've Learned

- Transport controls are found at the bottom of the Viewer and Canvas windows. You can also play and stop a clip or sequence by pressing the spacebar.
- You can use the J, K, and L keys to play in reverse, stop, play forward, or play very fast or very slow.
- There are mark buttons in both the Viewer and Canvas windows, and mark and play keyboard shortcuts can be found in the Mark menu and scrubber bar shortcut menu.
- To patch a track, you can drag a source control to the desired destination track, Control-click a source control and choose the destination from a shortcut menu, or Control-click the destination control and choose the source from the shortcut menu.
- To make insert or overwrite edits, use the keyboard shortcuts F9 or F10, use the yellow Insert or red Overwrite edit buttons in the Canvas; drag the clip thumbnail from the Viewer into the Canvas and drop it onto the Insert or Overwrite option in the Canvas Edit Overlay, or drag a clip thumbnail from the Viewer onto the Insert or Overwrite edit button in the Canvas.
- You can turn the snapping function off or on by pressing N, clicking the Snapping button in the Timeline button bar, or choosing View > Snapping.
- By choosing Show Overlays in the Viewer or Canvas View pop-up menu, you can see a variety of overlays in the image area, including the head and tail of clip, In and Out points, and end of sequence (blue bar).

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- You can make a subclip of a marked clip by choosing Modify > Make Subclip or by pressing Command-U.
- You can remove the limits of a subclip to access the original material by selecting the subclip in the Timeline or opening it in the Viewer and choosing Modify > Remove Subclip Limits.
- You can lift or delete one or more selected clips by choosing Sequence > Lift or by pressing Delete.
- To extract one or more clips, choose Sequence > Ripple Delete, or press Shift-Delete.
- To add the lifted material to the clipboard memory, you can use the Cut and Ripple Cut commands (Command-X and Shift-X, respectively).
- Choose Sequence > Insert Tracks (or Delete Tracks) to add (or delete) multiple tracks, and Control-click in the Timeline track area to add (or delete) one at a time.
- You can create split edits by Option-dragging existing In or Out mark points or by selecting the appropriate option from the Mark menu or the scrubber bar shortcut menu.
- You can clear a split edit point by choosing Mark > Clear Split.

Keyboard Shortcuts

Spacebar	Start and stops playing a clip or sequence
Down Arrow	Move playhead forward to next clip in Timeline or edit point in Viewer
Up Arrow	Move playhead to previous clip in Timeline or edit point in Viewer
Shift-\ (backslash)	Play from In to Out
\ (backslash)	Play around the playhead's position
Shift-P	Play from current location to Out
J-K-L	Play backward, stop, and play forward
K with L	Slowly scrub the image forward
K with J	Slowly scrub the image backward

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Keyboard Shortcuts

Left Arrow	Move playhead backward one frame
Right Arrow	Move playhead forward one frame
Shift-Left Arrow	Move playhead backward one second
Shift-Right Arrow	Move playhead forward one second
I	Set an In point
O	Set an Out point
X	Mark the entire clip length
Shift-I	Move the playhead to the In point
Shift-O	Move the playhead to the Out point
Option-I	Remove the In point in the active window
Option-O	Remove the Out point in the active window
Option-X	Remove both the In and Out points in the active window
F9	Make an insert (splice) edit
F10	Make an overwrite edit
N	Toggle snapping on or off
Command-U	Create a subclip from a marked clip in the Viewer or marked section in the Timeline
Delete	Lift a selected clip, clips, or range of material
Shift-Delete	Extract a selected clip, clips, or range of material
Command-X	Lift a selected clip, clips, or range of material and place it on the clipboard, leaving a space in the Timeline the length of the lifted material
Shift-X	Extract a selected clip, clips, or range of material and place it on the clipboard, removing the space the material occupied in the Timeline

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Keyboard Shortcuts

Control-I	Set a video In point for a split edit
Control-O	Set a video Out point for a split edit
Option-drag In point	On upper edit point, change just the Video In point
Option-drag Out point	On lower edit point, change just the Audio Out point
Command-Option-I	Set an audio In point for a split edit
Command-Option-O	Set an audio Out point for a split edit

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3

Goals

Select editing presets

Change audio/video settings

Select user preferences

Select sequence settings

View item properties

Change and save window layouts

Dynamically resize the interface

Customize the keyboard and button bars

Customize bin views

Perform storyboard editing

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Lesson 3

Customizing Your Project

Now that you've tackled some Final Cut Pro editing basics, let's take a look at where and how you adjust your settings. While Avid attaches settings to Projects, Users, and Site (systems), FCP settings control Sequence Settings, User Preferences, and System Settings. The User Preferences and System Settings categories are similar in nature. But one of the primary differences between Avid and Final Cut Pro is that where Avid attaches certain media settings to individual projects, FCP attaches those settings to each individual sequence. This allows FCP to work with various sequences with different settings within the same project. Let's say you have a project that was shot on high definition, but you have edited sequences using DVCAM, Digibeta, and HD. In FCP, all these sequences, with their different settings, can be contained in one project.

Since two systems are never the same, it's nice to be able to customize the interface and make it feel more like home. FCP has a customizable keyboard where you can map your favorite functions in the same location as on your Avid keyboard. There is also a button bar in each FCP window where you can choose and arrange your own layout of command buttons.

This chapter also covers bin organization and describes storyboard editing, which is performed largely by working within a bin.

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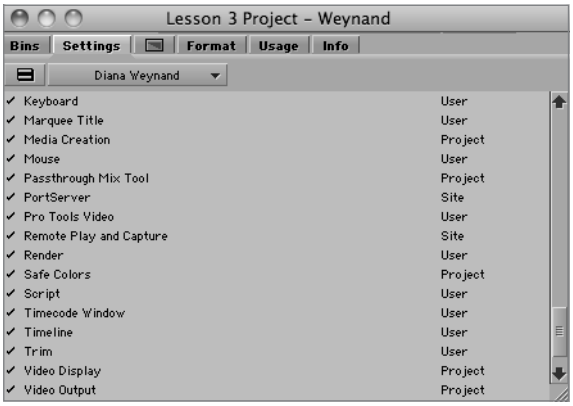
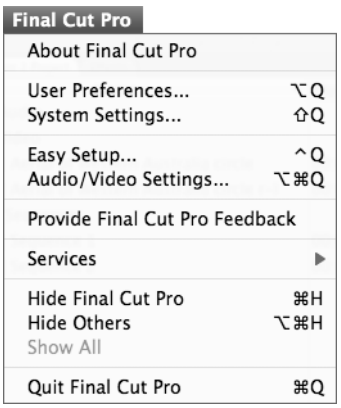
Selecting Editing Presets

Avid settings are divided into User, Project, and Site settings. They are collected under the Settings tab in the Project window. These options combine personal preferences along with settings for various aspects of the Avid editing process.



Avid Settings tab

Final Cut Pro settings cover similar territory, but are organized and accessed a little differently, into User Preferences, System Settings, Easy Setup, and Audio/Video Settings options. These can be selected from the Final Cut Pro menu, or accessed using the letter Q with a modifier key.



Final Cut Pro settings options

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Easy Setup Options

When you first open FCP, you are prompted to choose format settings. This is an opportunity to choose the settings for all new sequences. But you can also change these settings in the Easy Setup dialog at any time during your editing process. When you choose a specific standard and format, it is globally applied so that your sequence, capture, and device control presets match; it also sets the video and audio playback options to properly display the footage on your external monitor. In the two pop-up menus in the Easy Setup window—Format and Rate—you can filter the long list of format options that would otherwise appear in the Use pop-up menu.

NOTE ▶ The FCP Easy Setup options apply only to new sequences and new capture operations. Changing these settings has no effect on any previously created sequences or captured clips.

Easy Setup
Format: (all formats)
Rate: (all rates)
Use: DV-NTSC
Use this Easy Setup when working with DV NTSC source material and using FireWire for input/output of audio and video with Device Control set to FireWire.
Sequence Preset: DV NTSC 48 kHz
Capture Preset: DV NTSC 48 kHz
Device Control Preset: FireWire NTSC
Playback Output Video: Apple FireWire NTSC (720 x 480)
Playback Output Audio: FireWire DV
Edit to Tape/PTV Output Video: Same as Playback
Edit to Tape/PTV Output Audio: Same as Playback
Note: Settings for existing sequences will not change. New sequences will use the settings from the selected Easy Setup preset.
Cancel
Setup

To select an Easy Setup preset:

1. Choose Final Cut Pro > Easy Setup, or press Control-Q.
2. From the Format pop-up menu, choose a format category, such as HD, Apple ProRes 422, or HDV, to view those format options.
3. From the Rate pop-up menu, choose a frame rate.
4. From the Use pop-up menu, choose one of the listed presets.

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Easy Setup
Format: HDV
Rate: 29.97 fps
Use:
Blackmagic HDTV 1080i 59.94 – HDV
Blackmagic HDTV 720p 59.94 – HDV
HDV – 1080i60
HDV – 1080i60 FireWire Basic
HDV – 720p30
HDV and capturing from a
Device Control Preset: Sony HDV FireWire
Playback Output Video: Blackmagic HDTV 1080i 29.97Hz – 8 Bit (1920 x 1080)
Playback Output Audio: DeckLink Audio
Edit to Tape/PTV Output Video: Same as Playback
Edit to Tape/PTV Output Audio: Same as Playback
Note: Settings for existing sequences will not change. New sequences will use the settings from the selected Easy Setup preset.
Cancel
Setup

When you work with a third-party capture card, such as Blackmagic or AJA, you will see additional presets in the Easy Setup dialog.

TIP The FCP Auto Conform Sequence option, discussed in Lesson 2, enables you to change the sequence settings to match the format of the first clip you edit. Think of it as Easy Setup on the fly.

After choosing an Easy Setup, you can create new sequences and capture footage without having to worry about their settings matching.

NOTE ▶ Like Avid, Final Cut Pro has an open format Timeline that allows you to mix formats and frame rates in the same sequence without the need to render them.

Changing Audio/Video Settings

If the settings you want are not included in the Easy Setup preset options, or if you want to modify an existing Easy Setup preset, you can do so in the Audio/Video Settings window. Again, making changes to the Audio/Video settings won't affect any existing sequences.

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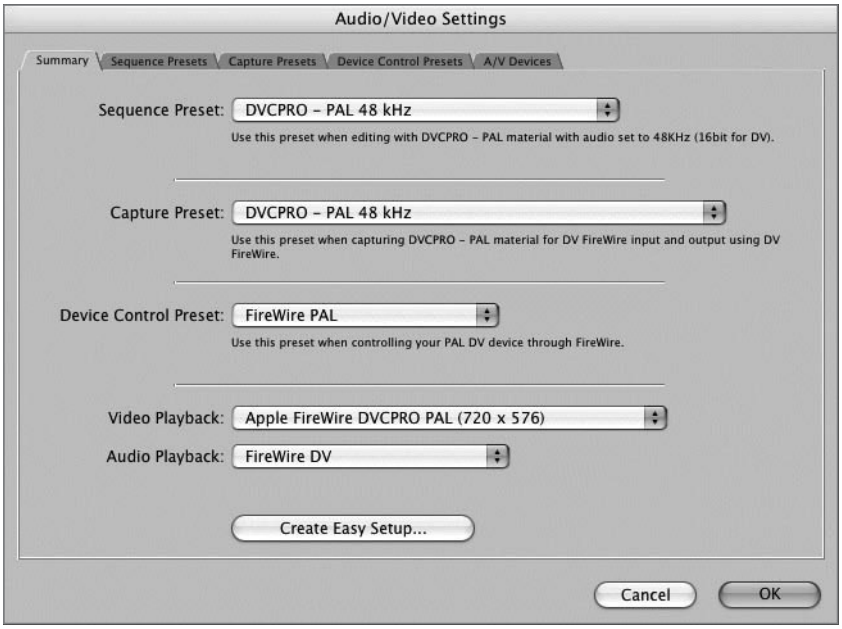
Audio/Video Settings
Summary
Sequence Presets
Capture Presets
Device Control Presets
A/V Devices
Sequence Preset:
DVCPRO – PAL 48 kHz
Use this preset when editing with DVCPRO – PAL material with audio set to 48KHz (16bit for DV).
Capture Preset:
DVCPRO – PAL 48 kHz
Use this preset when capturing DVCPRO – PAL material for DV FireWire input and output using DV FireWire.
Device Control Preset:
FireWire PAL
Use this preset when controlling your PAL DV device through FireWire.
Video Playback:
Apple FireWire DVCPRO PAL (720 x 576)
Audio Playback:
FireWire DV
Create Easy Setup...
Cancel
OK

To use the Audio/Video Settings window:

1 Choose Final Cut Pro > Audio/Video Settings, or press Command-Option-Q.

The different Audio/Video Settings tabs include the same settings that appear in the Easy Setup window. But here, you can create a new preset or make changes to an existing preset by duplicating and then changing it, using the Duplicate button found on the individual tabs. These new or changed presets will appear in the pop-up menus in the Summary tab. Once you have made your choices from the menus, you can group them into a custom Easy Setup by clicking the Create Easy Setup button.

2 Click each of the tabs to view their options:

- **Summary**—Displays a summary of the other four tabs' settings.
- **Sequence Presets**—Displays a list of sequence presets as well as a summary of the different parameters (frame rate, audio sample rate, aspect ratio, and so on) that comprise the currently selected preset. Presets may be duplicated and modified from this tab so they can be easily selected in the Summary tab or selected as an Easy Setup preset.

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- **Capture Presets**—Defines the format from which you will capture.
- **Device Control Presets**—Displays the settings for FireWire or any noncontrollable device, such as a camera. If you are working with a capture card or an RS422 source, it will appear here as an option.
- **A/V Devices**—Selects a setup if you are using an external video monitor.

NOTE ▶ Every sequence must have its own settings for format, aspect ratio, frame rate, and so on, and those settings should match the capture settings of the material you are editing. If you intend to mix clips with different capture codecs in the FCP Open Format Timeline, try to match the sequence settings to the settings that apply to the bulk of your material.

Selecting User Preferences

Like Avid User Settings, the Final Cut Pro User Preferences window is where you set your personal editing preferences. FCP user information follows the Mac OS X protocol. When you sign on as a user in Mac OS X, the FCP User Preferences are saved in your Preferences folder: Macintosh HD > Users > User Name > Library > Preferences > Final Cut Pro User Data folder. Many Avid editors like to take their user settings with them from system to system. This folder can also be taken to another FCP system and installed in this location to achieve the same effect. But unlike Avid, individual user preferences, such as custom keyboard or window layouts, can simply be added to the current settings without replacing all of a user's settings.

NOTE ▶ FCP software is continually upgraded, so available settings and preferences may be different on your version. Read the Getting Started section for information on staying current.

To view User Preferences options:

1 Choose Final Cut Pro > User Preferences, or press Option-Q.

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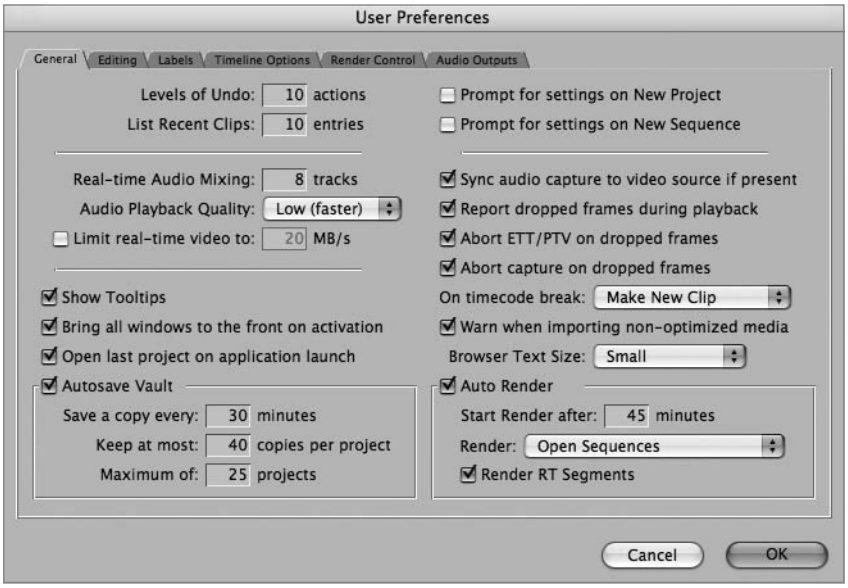
User Preferences
General
Editing
Labels
Timeline Options
Render Control
Audio Outputs
Levels of Undo: 10 actions
List Recent Clips: 10 entries
Real-time Audio Mixing: 8 tracks
Audio Playback Quality: Low (faster)
Limit real-time video to: 20 MB/s
Show Tooltips
Bring all windows to the front on activation
Open last project on application launch
Autosave Vault
Save a copy every: 30 minutes
Keep at most: 40 copies per project
Maximum of: 25 projects
Prompt for settings on New Project
Prompt for settings on New Sequence
Sync audio capture to video source if present
Report dropped frames during playback
Abort ETT/PTV on dropped frames
Abort capture on dropped frames
On timecode break: Make New Clip
Warn when importing non-optimized media
Browser Text Size: Small
Auto Render
Start Render after: 45 minutes
Render: Open Sequences
Render RT Segments
Cancel
OK

2 Click each of the six tabs to view their options:

- **General**—You'll find commonly used settings such as levels of undo and Autosave Vault on this tab.
- **Editing**—This is where you set preferences for certain editing functions, such as still image and freeze frame durations, multiframe trim size, auto conform options, and pre-roll and post-roll durations.
- **Labels**—Color code your clips and assign a category name for each color.
- **Timeline Options**—Change Timeline settings, such as track height, thumbnail display, number of tracks, starting timecode, and so on, for all new sequences. You can access several of these options in other ways.
- **Render Control**—Determine what types of effects, including Master Templates and other embedded Motion projects, will be rendered, and how.
- **Audio Outputs**—Configure audio output channels, up to 24 with an external audio device, as well as surround sound settings, and save the configuration as a preset.

3 Click the General tab and look at the following preference settings:

- **Levels of Undo**—You can have up to 99 levels of undo, but as always, setting a high number of undos uses more computer RAM.

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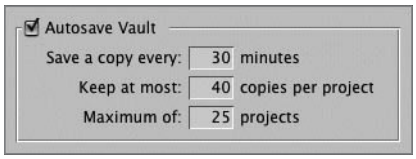
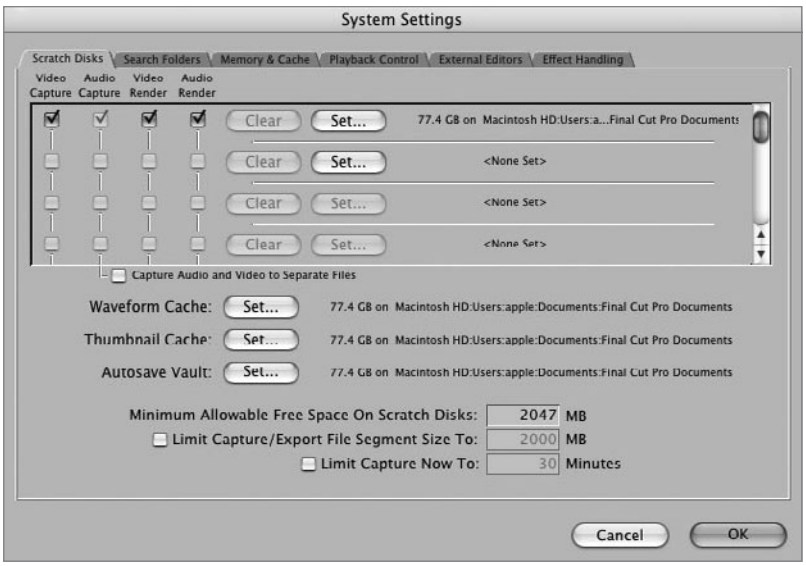
- **Autosave Vault**—This is like Avid's Attic, and the settings are like those in Avid's Bin Settings Autosave dialog. FCP will save copies at the time interval you define. Each new copy gets added to the list of autosaves. After 40—or whatever number you've entered as a maximum save number—the first copy will be put in the Trash to make room for new saves. You can still retrieve an autosaved project from the Trash as long as the Trash has not been emptied. Where Avid's Attic is stored in the Shared folder, the FCP Autosave Vault saves to the User > *User Name* > Documents > Final Cut Pro Documents folder.



Choosing System Settings

The System Settings window (Shift-Q) is where you choose system settings, including selecting your target media drive or the FCP scratch disk. Generally, the Memory & Cache settings are left on default settings. The last three tabs will be discussed in later lessons, where they apply to specific aspects of the editing process. Setting scratch disks is discussed in Lesson 5.



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Changing Sequence Settings

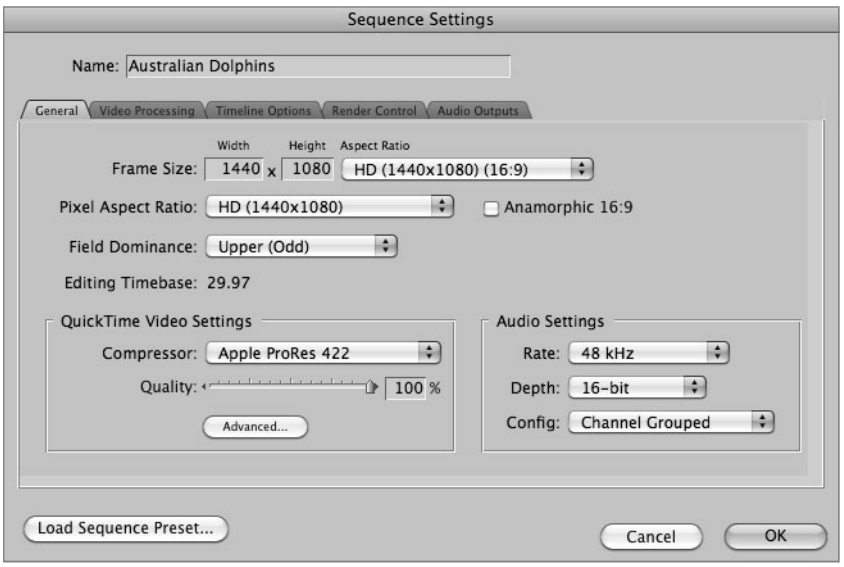
As long as you select the appropriate Easy Setup option to match the attributes of the source material you have digitized or recorded, your editing will run smoothly. However, there may be times when you need to change your sequence settings as you are editing, and doing so is quite simple.

Changes made to an existing sequence won't affect any new sequences you create. All new sequences follow whatever preset options and settings you chose in the Easy Setup and User Preferences windows.

To change settings to an existing sequence:

1 Select the sequence you want to change in either the Browser or Timeline.

2 Press Command-0 (zero) to open the Sequence Settings window.



A Sequence Settings window opens displaying the settings for the sequence named Australian Dolphins.

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3 Click the different tabs to view the following options:

- **General**—Change the selected sequence's frame size, aspect ratio, field dominance, sampling rate, and so on.
- **Video Processing**—Define how FCP processes the video, whether you are working with DV or 10-bit, superwhite (DV), or white (broadcast levels). You can also choose the filtering quality when rendering motion effects.
- **Timeline Options**—Modify the Timeline settings, track height, thumbnail display, number of tracks, and so on. This is where you can change the starting timecode for the current sequence. You can access several of these options directly in the Timeline window by clicking the Timeline Layout pop-up menu (discussed in Lesson 8).
- **Render Control**—Determine what will be rendered, and how. Again, there are other ways you will control your render options.
- **Audio Outputs**—Here you can load an audio output preset you set up in the User Preferences.

NOTE ▶ The third, fourth, and fifth tabs in the Sequence Settings window contain the same information that appears on the last three User Preferences window tabs. However, changing the information in the corresponding User Preferences tabs applies to all new sequences, not the current one.

Viewing Item Properties

The Item Properties window is where all the information about a selected item—such as a clip, sequence, graphic file, and so on—is displayed. In Avid, you may be used to peeking at clip info by highlighting a segment and pressing Command-I. In FCP, select a clip or sequence and press Command-9 for a very rich display of item properties.

To open the Item Properties window:

1 Identify the clip or item you want to view by selecting it in the Browser, opening it in the Viewer, or parking the playhead over it in the Timeline.

NOTE ▶ You can also view properties of a sequence by selecting it in the Browser.

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2 Choose Edit > Item Properties, and choose an option from the Item Properties submenu. Or press Command-9 and click the tab you want to view.

The Item Properties shortcut, Command-9, is next to the Sequence Settings shortcut, Command-0 on the keyboard.

TIP You can also Control-click (or right-click) an item in the Browser or Timeline and choose Item Properties from the shortcut menu.

3 Click one of the Item Properties tabs to view the following properties:

- **Format**—Displays the parameters of how this clip was captured.
- **Timing**—Displays the media length, In and Out points (if any), clip speed, and so on.
- **Logging**—Displays logged information about the item that you entered while capturing it, or in the Browser.
- **Film**—Displays logged information if media originated on film.

Some properties can be changed in the Item Properties window and some can't. Changing clip properties is discussed in Lesson 13.

Dynamically Resizing the Interface

Editing is a dynamic process. Sometimes you want more Timeline room to add tracks, and a few edits later you may need a larger Canvas to screen an effect, or perhaps a larger Browser to organize your project clips. With Final Cut Pro, you can choose a preset window layout and then change it dynamically.

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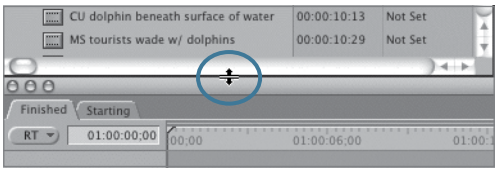
To dynamically resize the interface windows:

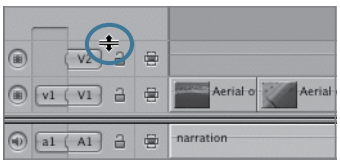
1 Move your pointer over a horizontal or vertical window boundary.

2 When the pointer becomes a double arrow tool, drag the window boundary up and down, or left and right.



To dynamically resize the Timeline tracks:

1 Move the pointer over an audio or video Timeline track boundary line.



2 Drag the track line up or down to increase or decrease the track height.

3 To set all the tracks to the same height, hold down Shift as you drag.

4 To set just the video or just the audio tracks to the same height, hold down Option as you drag.

TIP It may be helpful to position the pointer over a track boundary and see the double arrow tool appear before pressing Shift or Option.

Changing Window Layouts

Many Avid media composers use two monitors: one to display the project window and bins, and the other to display the edit interface. Final Cut Pro adapts easily to adding a second monitor where you can display your bins and interface more like you would in Avid. But like Avid, FCP can also be used quite effectively on a single monitor configuration or portable Mac. FCP lets you choose among several preset window layouts; these can help facilitate the type of editing you are doing, whether it's color correction, audio mixing,

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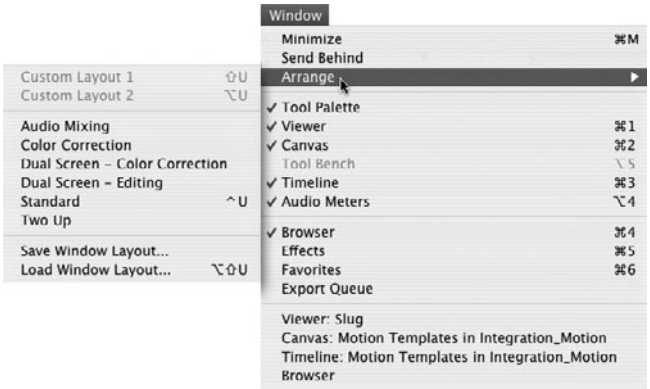
or standard editing, as well as the number of displays. For even more flexibility, you can arrange the FCP windows and save that arrangement as a custom layout similar to Avid's Workspaces.

TIP If you are using an external monitor and want to display the output of the Canvas window on that monitor, choose View > External Video and make sure All Frames is chosen. Then choose View > Video Playback and choose where you want to send the video. Choose View menu once again and choose Refresh A/V Devices.

To choose a preset window layout:

Do one of the following:

- Press Control-U to select the Standard preset layout option.
- Choose Window > Arrange, and select one of the preset options from the submenu:



Audio Mixing—Includes the Audio Mixing tool as part of the interface.

Color Correction—Includes video scopes to use when correcting color or applying color filters.

Multiple Edits—Includes two frame viewers to display previous and next edits.

Standard—Creates a large Timeline with smaller Browser, Viewer, and Canvas windows.

Two Up—Creates large Viewer and Canvas windows and a smaller Timeline.

NOTE ▶ Some options, such as dual screen layouts or Multiple Edits, appear only if you are configured for dual screen monitor display and if your resolution is set for 1280 x 854 or higher.

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Saving Layouts

If you have customized your Avid Toolset layout, you may want to configure your own Final Cut Pro window layout as you become comfortable working within the program. You can do this by changing the size and position of the Browser, Viewer, Canvas, and Timeline windows, and then saving the layout. You can even change and save the Timeline tracks layout. All layouts are saved in the Final Cut Pro User Data folder.

To set a custom window layout:

You can save two custom window layouts that are accessible by choosing Window > Arrange > "Custom Layout 1" or "Custom Layout 2," or by using the keyboard shortcuts for those options. You can also save and store additional layouts by name, but you may need to recall them from their saved location to use them.

1. Arrange the windows as you would like them.
2. Hold down the Option key and choose Window > Arrange.
3. While still holding down the Option key, choose "Set Custom Layout 1" or "Set Custom Layout 2."

TIP If you change your interface, you can quickly recall your custom layout by choosing Window > Arrange > Custom Layout 1 (Shift-U) or Custom Layout 2 (Option-U).

You can also name and save a custom layout by using the Save Window Layout function in the Window > Arrange submenu. This enables you to use your saved layout on another computer. The automatic destination for saved layouts is the Window Layouts folder in the Final Cut Pro User Data folder: Macintosh > User > User Name > Library > Preferences > FCP User Data > Window Layouts.

TIP To load one of these custom layouts back into your computer, choose Window > Arrange from the bottom of the menu. If the command does not appear there, choose Windows > Load Window Layout, or press Shift-Option-U to display the saved layouts.

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To save the Timeline track layout:
In FCP, you can also save a custom track layout for the Timeline tracks, as you can in many Avid systems.

1 Click the Timeline Layout Popup arrow next to the Track Height columns in the Timeline.

2 From the pop-up menu, choose Save Track Layout.

In the file browser, the automatic destination for the saved layout is the Track Layout folder in the Final Cut Pro User Data folder.

3 To restore a saved track layout, click the Timeline Layout Popup arrow and choose the saved layout from the pop-up menu. If it doesn't appear there, choose Restore Track Layout, and then choose the desired layout.

TIP To restore the default Standard window and track layout, press Control-U.

Customizing the Keyboard

The Avid command palette lets you map functions or commands to the Avid keyboard. Final Cut Pro can also map commands to the keyboard using its Keyboard Layout tool.

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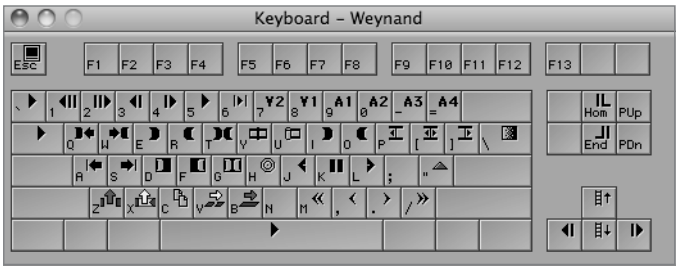
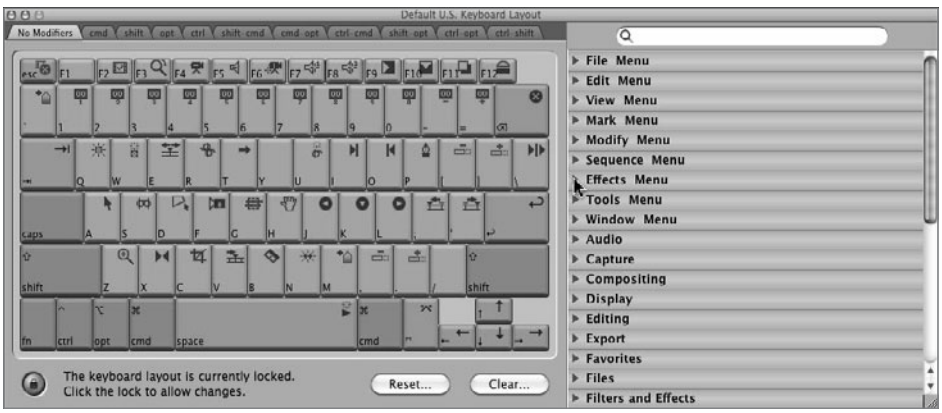
You can map over 840 FCP functions to the keyboard. In addition, you can save and load your customized keyboard layout to use on another computer.



Avid's mappable keyboard

To map FCP commands to the keyboard:

1 Choose Tools > Keyboard Layout > Customize, or press Option-H.



2 In the lower-left corner, click the Lock button to unlock the keyboard.

3 Determine the key location for the new command and, if necessary, click the appropriate modifier tab to go to that location.

4 In the button list, find the command you want to map by *doing one of the following:*

- Type the function or command in the search field but do not press Return.

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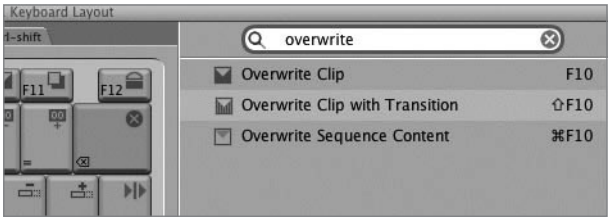

- Scroll through the button list and click one of the main topics to reveal the sublist of commands. Commands are grouped both by pulldown-menu location and by function type.

5 To map a command to a button, *do one of the following:*

- With the desired modifier tab selected, drag the command from the button list to a specific key.

- Select the command in the button list and press the key combination you would like to use for that command. The shortcut will appear along with the command.

NOTE ► You can place a new command over an existing one to replace it. If you want to remove a command from an existing location, drag the command icon away from the key and release it. You will see a puff of smoke appear, indicating the command is no longer mapped to that key.

To save and load a keyboard layout:

Once you've customized the keyboard layout, you can save it to your hard disk as part of your Final Cut Pro User Data. If you want to use that keyboard layout on a different computer, you can take either the entire User Data folder or individual Keyboard Layout files with you and load them onto that computer to use it in Final Cut Pro.

1 To save the current keyboard layout, choose Tools > Keyboard Layout > Save Keyboard Layout. Enter a name for the new layout and click OK.

The layout file will be saved on your hard disk in your Final Cut Pro User Data folder.

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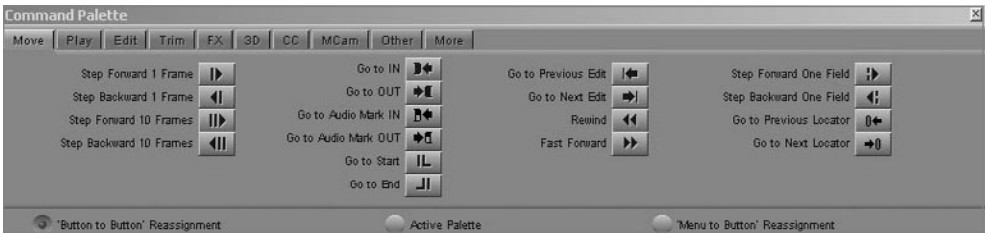
2 To load a saved layout, choose Tools > Keyboard Layout, and if you see the saved layout listed in the menu, choose it. If not, choose Load Keyboard Layout, and select the keyboard layout you want to load.

3 To load a saved layout onto a *different* computer station, do the following:

- Open a Finder window, navigate to Macintosh > Users > *User Name* > Library > Preferences > Final Cut Pro User Data > Keyboard Layouts.
- Copy the keyboard layout you want to use, or the entire folder of layouts, to a flash drive or other storage device. Load that device into a different computer.

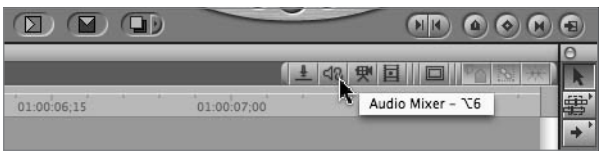
Changing Command Buttons

Like Avid, Final Cut Pro lets you map commands directly into special areas of the interface. For example, Avid maps commands under the Source and Record monitors and above the Timeline from a catchall Command palette. FCP maps commands into any one of the four primary interface windows in an area called a button bar.



Avid Command palette

Each FCP window has a button bar in the upper-right corner of the window. With no buttons in this area, you see two bookends that contain the buttons. The default FCP interface comes with three buttons already placed in the Timeline button bar: Ripple Sequence Markers, Linked Selection, and Snapping. You can color code and arrange command buttons. Button bars, like layouts, can also be saved.



Customized Timeline button bar

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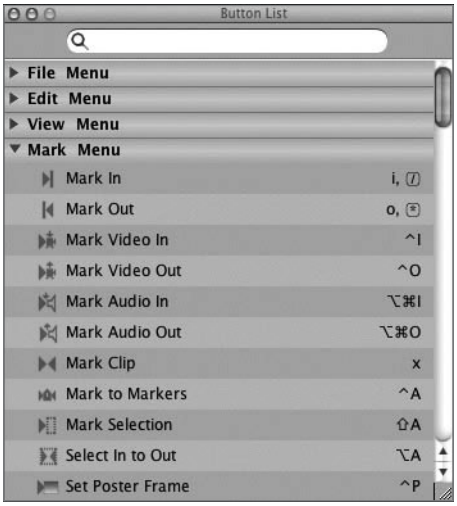
To add a command button to the button bar:

1 Choose Tools > Button List, or press Option-J.

This is the stand-alone version of the same button list that appeared when you customized the keyboard in the previous exercise. You can use either list to add command buttons to a button bar.



2 Locate the command you want to use from the list, or enter it in the search field at the top of the list. If, after entering a function, you want to return to the default menu list, click the X to the right of the entry area.

3 Drag the command into any one of the FCP window button bars and drop it between the two button bookends or between any existing buttons.

NOTE ► Mapping commands is highly flexible in FCP. You can drag a key command from the keyboard layout directly to a button bar. You can move a button by dragging it from one button bar to another. To copy a button to use in another button bar, Option-drag it to a new location.

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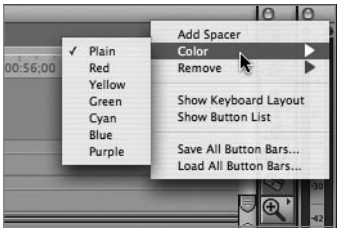
To customize and save the button bar:

Do one or more of the following:

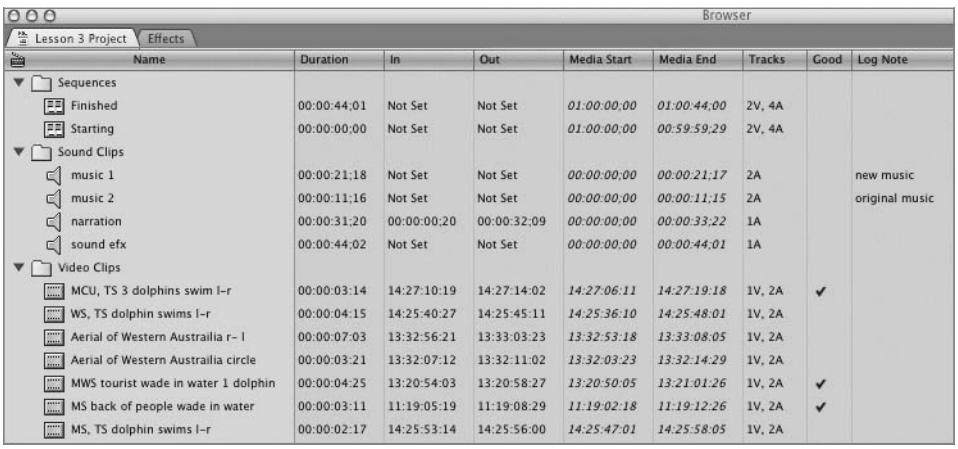
- To change the color of a button, Control-click one of the buttons in a button bar and, from the shortcut menu, choose Color and the desired color.



- To create space between buttons, Control-click a button and choose Add Spacer from the shortcut menu. Spacers are added to the right of the selected button.
- To save all the button bars in the current interface layout, Control-click any button and choose Save All Button Bars from the shortcut menu.

Utilizing the Bin Text View

Like Avid, Final Cut Pro gives you a lot of flexibility in sorting bin information, but its bin structure has some important differences. In FCP, bins act like folders in the Finder: You can put bins inside other bins and organize your material into subcategories or any way you like. You can also make label changes to groups of clips or bins at one time. Avid's text view is called View as List in FCP, and this display has over 65 potential column headings of information, which can be configured to your own preference.



Name	Duration	In	Out	Media Start	Media End	Tracks	Good	Log Note
Sequences								
Finished	00:00:44;01	Not Set	Not Set	01:00:00;00	01:00:44;00	2V, 4A		
Starting	00:00:00;00	Not Set	Not Set	01:00:00;00	00:59:59;29	2V, 4A		
Sound Clips								
music 1	00:00:21;18	Not Set	Not Set	00:00:00;00	00:00:21;17	2A		new music
music 2	00:00:11;16	Not Set	Not Set	00:00:00;00	00:00:11;15	2A		original music
narration	00:00:31;20	00:00:00;20	00:00:32;09	00:00:00;00	00:00:33;22	1A		
sound efx	00:00:44;02	Not Set	Not Set	00:00:00;00	00:00:44;01	1A		
Video Clips								
MCU, TS 3 dolphins swim l–r	00:00:03:14	14:27:10:19	14:27:14:02	14:27:06:11	14:27:19:18	1V, 2A	✔	
WS, TS dolphin swims l–r	00:00:04:15	14:25:40:27	14:25:45:11	14:25:36:10	14:25:48:01	1V, 2A		
Aerial of Western Australia r– l	00:00:07:03	13:32:56:21	13:33:03:23	13:32:53:18	13:33:08:05	1V, 2A		
Aerial of Western Australia circle	00:00:03:21	13:32:07:12	13:32:11:02	13:32:03:23	13:32:14:29	1V, 2A		
MWS tourist wade in water 1 dolphin	00:00:04:25	13:20:54:03	13:20:58:27	13:20:50:05	13:21:01:26	1V, 2A	✔	
MS back of people wade in water	00:00:03:11	11:19:05:19	11:19:08:29	11:19:02:18	11:19:12:26	1V, 2A	✔	
MS, TS dolphin swims l–r	00:00:02:17	14:25:53:14	14:25:56:00	14:25:47:01	14:25:58:05	1V, 2A		

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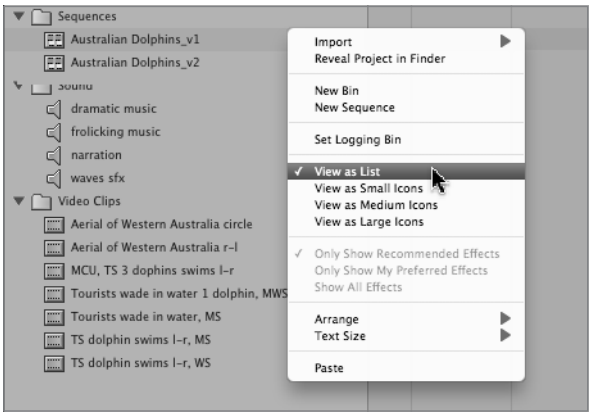
To customize a bin in text view:

1 Make sure you are viewing the contents of the bin as a list, not by icons. To do this, Control-click the Browser's empty gray area under the Name column and choose View as List from the shortcut menu.



2 Click the disclosure triangle next to the bin whose contents you want to view, then enlarge the Browser window by clicking the Zoom button in the upper-left corner. You can also drag the lower-right corner of the window down and out.

3 *Do any one of the following:*

- To move a column, drag the column heading to a new location.
- To change how the elements in the bin are sorted, click a new column heading.
- To reverse the sort from ascending to descending values on any column, simply click the column heading.
- To add a second sorting parameter, Shift-click a different column heading. You can repeat this step to add additional sorting parameters.

  NOTE ► This is similar to Avid's multilevel column sort capability.

- To enter log notes or comments, click under that column to create a text field, and type notes directly in the column field for that item.

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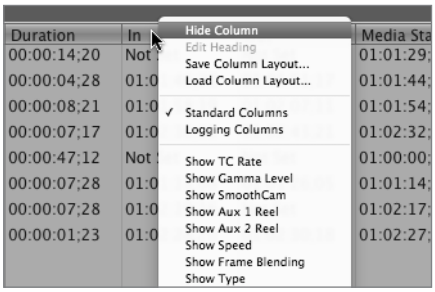
- To rename a Master Comment 1–4, or Comment A and B column, Control-click that column head and choose Edit Heading. Enter the new column name in the active field.

  NOTE ► These Comment column headings are not global, but are saved as part of a project.

- To hide or add an individual column, or edit, save, or restore a column layout, Control-click a column heading and choose the appropriate option. Column layouts are saved in the Final Cut Pro User Data folder.



Working with Icon Views

While Avid defaults to its Bin Brief Text view, Final Cut Pro defaults to its List view with columns of text information. FCP has a similar mode to Avid's Frame mode, which FCP calls View as Icons. FCP has three viewing options for that mode: View as Small Icons, View as Medium Icons, and View as Large Icons. FCP does not have a Script mode, but you can simulate one by adding the Thumbnail column in View as List mode.

Avid Frame view

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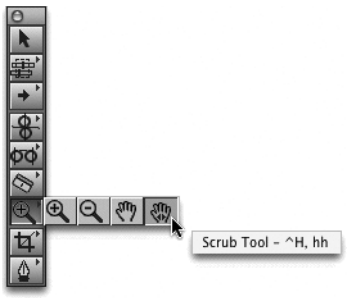
To scrub through clip icons:

In FCP, while in any of the icon views in the Browser, you can scrub through the clip icon to screen your material.

1 Double-click a bin to open it as a separate window. Control-click in the empty gray area under the Name column and choose View as Large Icons from the shortcut menu. This is similar to Avid's Frame mode.

2 *Do one of the following:*

- From the Tool palette, click and hold the Zoom In (magnifying glass) icon, and when additional tools appear, select the Scrub tool (hand with two arrows in it).



- Press HH to select the Scrub tool.
- Press Shift-Control-click to turn the default Selection tool (mouse pointer) into a temporary Scrub tool.

3 Move the Scrub tool onto the image you want to view, and drag left or right.

To change a clip icon:

Each clip icon displays the first frame of captured material as its representative frame. FCP calls this the *poster frame* because it represents the clip as a poster represents a movie. But sometimes those frames aren't a good indication of the material that follows on the clip. FCP lets you reset the poster frame in your clip icons.

1 Load the clip into the Viewer and park the playhead on the frame you want to be the poster frame.

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2 Choose Mark > Set Poster Frame, or press Control-P.

That frame becomes the poster frame for the clip icon.

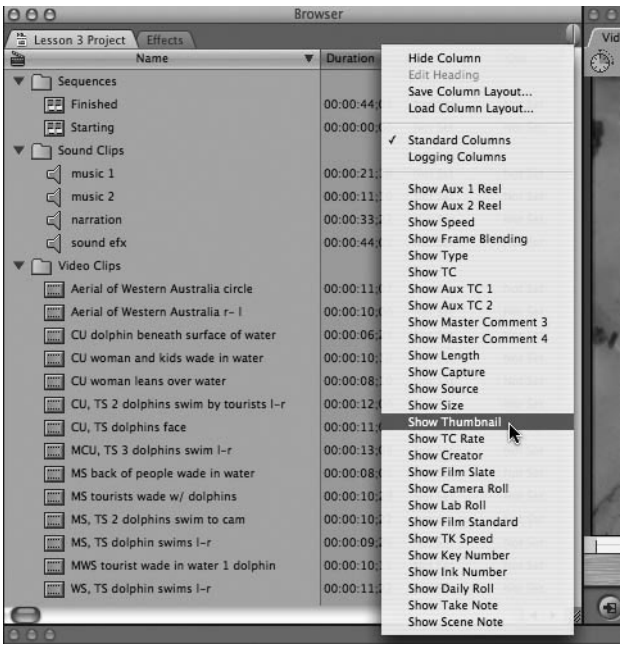
NOTE ► If using Shift-Control-click (Shift-right-click) to scrub, you can also set a poster frame by releasing the mouse button and then releasing the keys.

To use the Show Thumbnail column:

By displaying a separate Thumbnail column in the Browser, FCP can simulate Avid's Script mode. The Show Thumbnail column displays the clip frame icon beside the clip's text information, all in the same bin.

1 Control-click in the empty gray area under the Name column of the Browser or an open bin and choose View List from the shortcut menu.

2 Control-click the second column heading and choose Show Thumbnail from the shortcut menu.



Browser column shortcut menu

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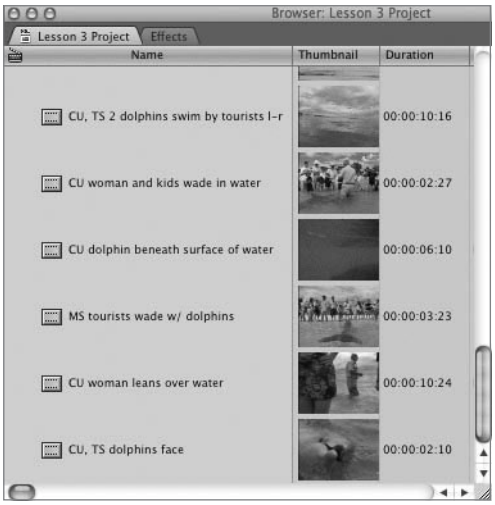
When you select Show Thumbnail from the shortcut menu, a new column appears in the Browser or bin.



Thumbnail column displayed

3 Scrub through the clip by dragging left or right in the thumbnail image. In the Thumbnail column, you can use the default Selection tool (A) to scrub.

4 To change the clip's poster frame in the Thumbnail column, scrub to the new frame and hold down the Control key; release the mouse button and then release the Control key.

Performing Storyboard Editing

The Final Cut Pro storyboard editing function begins by arranging clip icons in a bin, just as in Avid editing. They both respect the same clip order—left to right, top to bottom—and they both allow you to bring the clips into the sequence as a group. As in Avid 5, you can drag the clips from the FCP Viewer directly into the Timeline. But in FCP, you can also drag the clips to the Canvas or choose one of the options in the Edit Overlay. Timeline editing is discussed in Lesson 6.

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Feeding Dolphins in Lesson 3 Project
Feeding Dolphins
15 items
MS 2 boys and mom
MS Ranger1
MWS bucket swirl
MS camera shooters
MS man feeds fish
Rev Ranger and group
MS girl feeds no take
MWS girl feeds last fish
MS tourists wade in water face cam
MS 2 dolphins swim beneath surface
MS bird steals fish out of girl's hand

FCP storyboard layout

To create a storyboard of clips:

1 In the Browser, create a new bin (Command-B) and drag the clips you want to arrange into the bin.

2 Double-click the new bin to open it and change the view to View Medium Icons or View Large Icons, so you can see the clips.

3 Manually position the clips in left-to-right, top-to-bottom order, as you would like them to appear in the sequence.

NOTE ► Don't use the Arrange option in the bin shortcut menu. This will reposition the clips into alphabetical order. Remember to keep the clips in a slightly descending order as you lay them out left to right.

4 Select all the clips you want to use in this grouping or sequence.

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5 In the Timeline, position the playhead where you want to edit the clips, and patch the appropriate audio and video source tracks.

6 Drag the selected clips into the Canvas window onto the Overwrite or Insert Edit Overlay option.

FCP will observe any In or Out points that are already attached to the clips. If no edit points are attached to the clip, the entire length of the master clip will be edited into the sequence.

What You've Learned

- Final Cut Pro attaches settings to each sequence and capture operation, whereas Avid attaches similar settings to projects.
- Easy Setup allows you to choose a preset configuration that matches the specific standard and format of your captured video clips.
- You can modify an existing Easy Setup Capture or Sequence setting in the Audio/Video Settings window.
- You set personal editing preferences in the User Preferences window.
- You choose scratch disks and other system settings in the System Settings window.
- In the Sequence Settings window, you can change attributes, such as Timeline options and render settings, for an existing sequence.
- The Item Properties window displays all the known information—such as a clip, sequence, graphic file, and so on—about a selected item.
- You resize the interface windows dynamically by dragging on a window's boundary.
- You resize a Timeline track dynamically by dragging its boundary line in the Timeline track area.
- Holding Shift as you drag a track boundary in the Timeline adjusts all audio and video tracks as a group. Holding Option adjusts only the audio or video tracks, depending on which type of track you are dragging.
- There are preset interface layouts, and you can set your own as a custom layout. You can also save a custom track layout in the Timeline. Any saved layout can be transferred to and used on another computer.

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- Over 840 mappable functions may be assigned to a customized keyboard layout. You can also map button commands to any of the four interface window button bars. Both the button bar layout and customized keyboard layouts can be saved.
- Similar to Avid's Text view, the Browser's View as List option displays over 65 columns of information and enables you to move columns, choose sort parameters, and type log notes directly in certain column fields.
- Choose the Browser Label column to change the color of a clip, or Control-click the clip in the Name column and choose Label plus the color or category.
- The FCP View as Icons mode is similar to Avid's Frame mode.
- Adding the Browser Thumbnail column simulates Avid's Script mode.
- You can reset poster frames in your clip thumbnails.
- In storyboard editing, FCP enables you to bring the group of clips directly into the Timeline or to the Canvas.

Keyboard Shortcuts

Control-Q	Open the Easy Setup window
Command-Option-Q	Open the Audio/Video Settings window
Option-Q	Open the User Preferences window
Shift-Q	Open the System Settings window
Command-0 (zero)	Open the Sequence Settings window
Command-9	Open the Item Properties window
Shift-U	Recall Custom Layout 1
Option-U	Recall Custom Layout 2
Control-U	Reset the Standard window layout
Shift-Option-U	Open the list of saved layouts
Option-H	Open the Keyboard Layout/Button List window
Option-J	Open the stand-alone button list

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Keyboard Shortcuts

HH	Select the Scrub tool
Shift-Control-click	On a clip's thumbnail image in a bin, scrub the clip
Control-P	Set a new poster frame in a clip in the Viewer at the playhead location

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4

Goals

Use the Trim window

Perform dual-roller and single-roller trimming

Use J-K-L trimming

Trim in the Timeline

Trim by dragging edit points

Trim with keyboard shortcuts

Trim by time amount

Work with linked selection

Create split edits using trim tools

Asymmetrical trimming

Trim in the Viewer

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Lesson **4**

Trimming Clips

In this lesson, we will cover the basic Avid approach to trimming and show how to perform those same functions in Final Cut Pro. In general, FCP is far less modal than Avid. You can perform trims in FCP just as you can with Avid's Smart Tool without entering a "trim mode," whereas with previous Avid versions, you always enter Trim mode to trim. Both, however, have similar trim windows that behave in similar ways. Like Avid, FCP lets you trim clips by dragging an edit point in the Timeline or entering a trim duration. In addition, FCP also has dedicated trim tools in the Tool palette. You have numerous ways to trim clips in FCP. The trick is to find your comfort zone of what's familiar and then to explore the new alternatives.

Also in Avid, unless you lock tracks (or turn off Link Selection in Avid 5), you are free to adjust individual tracks separately. In FCP, the default is to bind or "link" the video and audio portions of a clip so that when you select one track, all tracks are selected. However, FCP also has a linked selection feature. This feature is covered in depth in Lesson 8, but this lesson includes steps to select just the audio or video portion of a clip so that you may trim one track at a time to create a split edit or L-cut.

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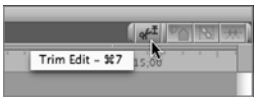
Although most trim functions are covered in this lesson, a few additional techniques for changing the length of a clip in the Timeline are covered in Lesson 6—such as trimming an edit using the Extend function, or dividing a clip by using Add Edit.

Working with the Trim Edit Window

While Avid 5 has adopted many of the direct trimming features available in Final Cut Pro, there are many versions of Avid Media Composer in which you have to select a separate mode to trim. In Final Cut Pro, you never change modes per se, but one way to trim is to access a Trim Edit window, which is much like Avid's big trim window. Inside the Trim Edit window, FCP handles trimming virtually the same way Avid does. To open the FCP Trim Edit window, you can lasso an edit point with a special tool, or simply double-click the edit point. If you want to map a Trim Edit button to simulate clicking Avid's Trim Mode button, you can map it to one of the button bars. You can also use keyboard shortcuts.

Avid Trim Mode button



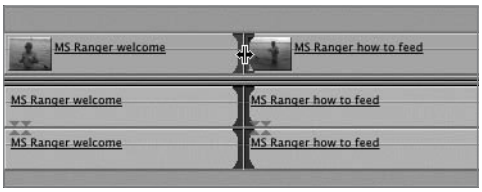
FCP Trim Edit button

FCP Edit Selection tool

To open the FCP Trim Edit window:

Do one of the following:

- Double-click the edit point between two clips in the Timeline.



- From the Tool palette, choose the Edit Selection tool (the second tool), or press G, and lasso an edit point.
- From the button list (Option-J), add the Trim Edit button to your Timeline button bar, and click it to open the edit point closest to the playhead.
- In the Timeline, press Command-7 to open the edit point closest to the playhead.

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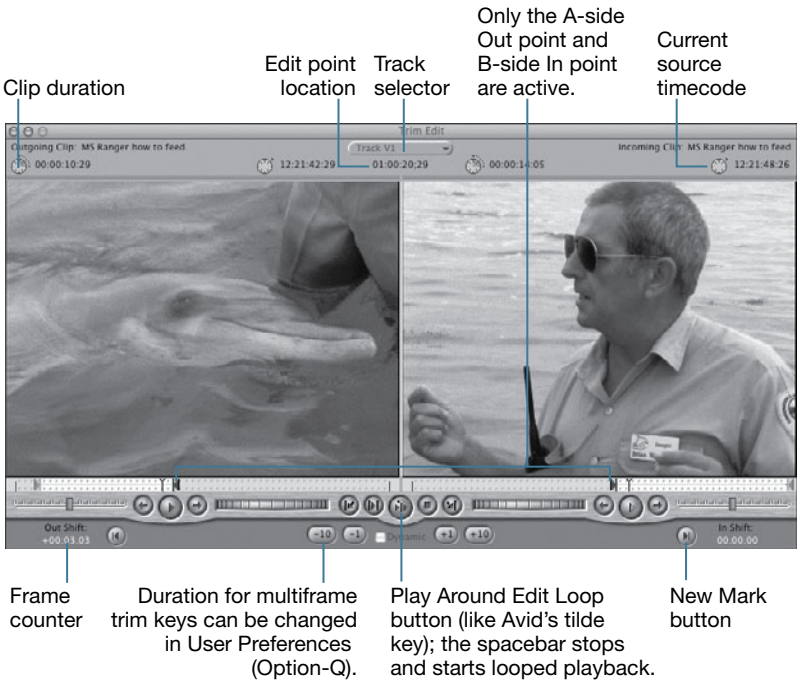
TIP When an edit point is opened in the Trim Edit window, press the Down Arrow to open the following edit point in the Trim Edit window or the Up Arrow to open the previous edit point.

A familiar "big" trim window opens on top of the Viewer and Canvas window areas.

NOTE ▶ The size of the trim window will match the current layout size of the Viewer and Canvas windows.


Clip duration
Edit point location
Track selector
Only the A-side Out point and B-side In point are active.
Current source timecode
Frame counter
Duration for multiframe trim keys can be changed in User Preferences (Option-Q).
Play Around Edit Loop button (like Avid's tilde key); the spacebar stops and starts looped playback.
New Mark button

FCP Trim Edit window

For every function on the A side of the window, you will find corresponding functions on the B side. The preview and trim keys are in the middle of the window, beneath the A and B images.

To close the Trim Edit window:

Do one of the following:

- Press Command-W.
- Click anywhere in the Timeline except an edit point.

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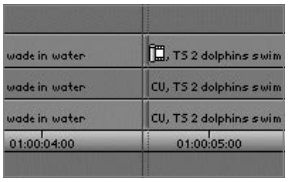
Performing Dual-Roller and Single-Roller Trimming

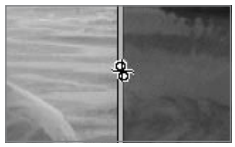
Avid has purple rollers in the Timeline that indicate a dual-roller or single-roller trim. The Final Cut Pro Timeline display for dual- and single-sided editing is very similar to Avid's. You see the similar types of A-side and B-side "rollers" around the edit point in the Timeline.



Avid single-rollers in Timeline

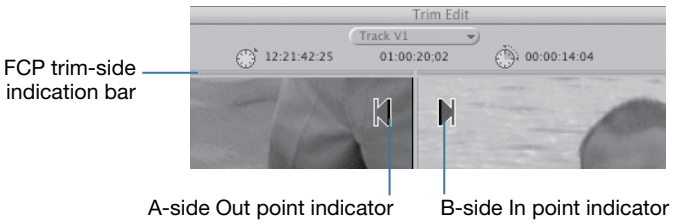
FCP single-sided trim in Timeline

Avid dual-trim rollers
in Trim mode window



FCP Roll tool in Trim
Edit window

As with Avid's purple "active" bars in its Trim mode window, a green "active" bar above an image in the FCP Trim Edit window indicates that it will be adjusted in the trim. One green bar over either the A- or B-side image indicates a single-roller trim; green bars over both images indicate a dual-roller trim.



FCP Trim Edit indicators

As in Avid, clicking one side or the other of the FCP Trim Edit window selects a single-roller trim mode. Clicking the space between the two images selects a dual-roller trim

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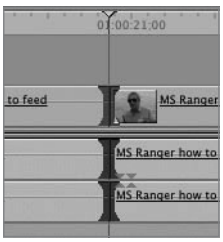
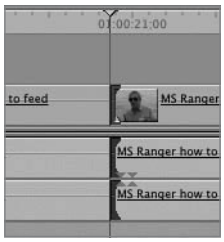
mode. When these selections are made, the Timeline edit point reflects the active side or sides, just as in Avid.



A and B edit points selected

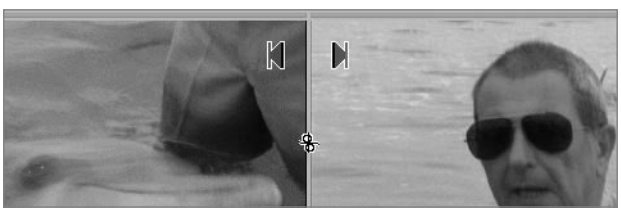


B-side edit points selected

TIP Pressing U toggles between the trim modes in both the Trim Edit window and the selected edit points in the Timeline.

Dual-Roller Editing

Whereas Avid has its dual-roller trim mode, FCP has its Roll tool, which appears when the pointer moves between the A and B images in the Trim Edit window. Click in the center of the Trim Edit window to select a roll edit (dual-roller mode). A green bar appears above both images.



Roller tool in Trim Edit window

Single-Roller Editing

The equivalent of Avid's single-roller mode is the FCP Ripple tool, which appears when the pointer moves into the A- or B-side image in the Trim Edit window. Click the left or right image to select single-roller mode. A green bar appears above the selected side of the edit point. FCP refers to this as a ripple edit because it pulls up or pushes back (ripples) the other clips in the sequence by the amount of the trim without leaving any gaps.

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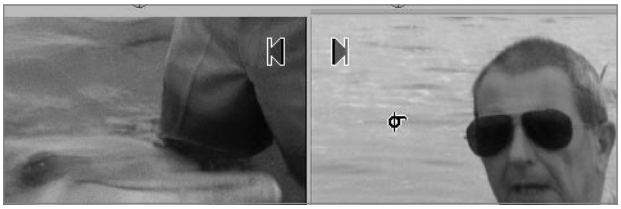


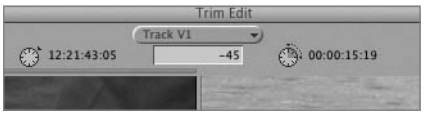
Ripple tool in Trim Edit window

You have several ways to perform a roll (dual-roller trim mode) or ripple (single-roller trim mode) type of trim in FCP. The following are a few methods; others are discussed in the following pages.

To trim numerically:

1. Click either the A- or B-side clip to work with the Ripple (single-roller) tool, or click between the two images to work with the Roll (double-sided roller) tool.

2. Click the minus (–) or plus (+) sign, and enter a trim amount in the Trim Edit window.



   The trim amount is displayed in the Current Sequence Timecode field above the two image areas.

3. Press Return.

   All trim changes made in the Trim Edit window are reflected in the Timeline.

To trim using shortcuts:

With either a Ripple tool (single-roller) or Roll tool (dual-roller) selected, *do one of the following:*

- Press the Left or Right Bracket key ([or]) to trim one frame.
- Press the Left or Right Angle Bracket (< or >)—Avid's Trim Left or Right keys—to trim one frame.

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- To trim a designated multiframe trim amount (set in the Editing tab of User Preferences), press Shift-[(Left Bracket) or Shift-] (Right Bracket). You can also press Shift-< or Shift-> (Right or Left Angle Bracket keys) to trim the multiframe amount.

Using J-K-L Trimming

In addition to using the trim tools, entering a numeric trim value, and working with shortcut keys, in the Trim Edit window you can also trim dynamically, or "on the fly," using the J-K-L keys. This "live play trimming" in Final Cut Pro is called dynamic trimming.

Dynamic trimming enabled in the Trim Edit window

NOTE ▶ You can enable dynamic trimming in the Trim Edit window or in the Editing tab of the User Preferences window.

When dynamic trimming is enabled, the J-K-L keys behave exactly as they do in the Avid trim mode. You can press J or L to play and shuttle forward and back, and press K to execute the trim. Also common to both applications, if you hold down K and J or L to shuttle in slow motion, simply releasing the keys will execute the trim. Unlike the method in Avid, however, when dynamic trimming is enabled in FCP, pressing the spacebar will pause the playhead without performing a trim or playing around the edit. This allows you to search again for the trim point before pressing K.

TIP While playing a clip, you can press the J or L key again to increase the play speed.

To trim using the J-K-L keys:

1. In the Timeline, double-click the edit point you want to edit.
2. Select the Dynamic checkbox.
3. Move the pointer over either the A-side or B-side clip.

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If you're using the Roll tool, you do not have to click or select the image—FCP responds to the location of the cursor. If you want to dynamically trim just one side of the edit, click to choose it prior to pressing J or L.

4 Press J or L to play the clip backward or forward.

5 As the clip is playing, press K where you want the new edit point to be.

TIP You can also combine the Avid and FCP methods by pressing the spacebar to stop at the new edit point and then pressing K to execute it.

Dragging Edit Points

Another way to trim in the Trim Edit window is to drag an edit point manually in the scrubber bar area beneath the A- and B-side images. Like the other methods of trimming, this method also creates an immediate change in the Timeline edit points.

FCP Trim Edit scrubber bar with active Out point

When the Trim Edit window is active, you can drag to trim the tail of the outgoing clip or the head of the incoming clip. Make sure you are dragging the blue edit point triangle, not the playhead (position indicator).

To drag in the Trim Edit window:

1 Click either the A-side or B-side image, or between images.

2 Move the pointer over the appropriate active edit point in the scrubber bar.

3 When the pointer changes to the Ripple tool (single-roller) or Roll tool (double-roller), drag the edit point left or right, and then release the mouse button.

As you drag, you see the edit points change in the Trim Edit window and in the Timeline.

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TIP You can also move the playhead to a desired trim location and drag the edit point to snap to the playhead.

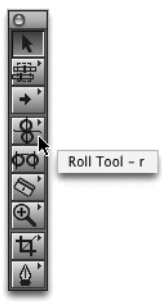
Trimming in the Timeline

An alternative to using the Trim Edit window is to perform an FCP trim directly in the Timeline as you would in Avid. Trimming in the FCP Timeline is easy and direct, and uses methods similar to those covered earlier in this lesson. These methods include dragging edit points using the Roll (dual-roller) and Ripple (single-roller) trim tools, using keyboard shortcuts, and entering a numerical trim value.

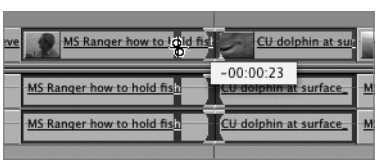
NOTE ▶ Using the FCP Ripple trim tool will always trim frames and ripple the effect throughout the remainder of the sequence, just as with the Avid 5 Ripple Trim tool. And while FCP does not have a specific Overwrite Trim tool as you will find in Avid 5, you can perform this type of trim by dragging an edit point using the default Selection tool. This method is discussed later in this lesson.

To roll two edit points in the Timeline:

1 In the Tool palette, click the Roll tool, or press R.



2 In the Timeline, move the Roll tool over the edit point between the two clips you want to trim, and then drag the edit point left or right.


MS Ranger how to hold fish
CU dolphin at surface
-00:00:23
MS Ranger how to hold fish
CU dolphin at surface
MS Ranger how to hold fish
CU dolphin at surface

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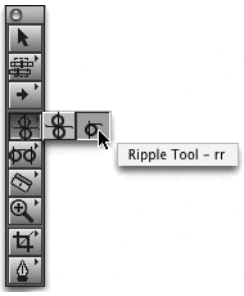
The amount of the trim appears in an information box next to the Roll tool in the Timeline. In the Canvas, a *two-up* display, similar to Avid's Small Trim mode, appears as you drag.

TIP Pressing N will turn off snapping to give you more control around the edit point. Also, holding down the Command key as you drag will slow down the dragging speed.

To ripple a single edit point:

1 Press the keyboard shortcut RR, or click and hold down the Roll tool in the Tool palette, and slide over to select the Ripple tool when it appears.



2 Move the Ripple tool into the Timeline toward the In or the Out point.

TIP If an X appears as part of the Ripple or Roll tool, move the pointer closer to the In or Out point where the function can be applied.

3 Drag the In or Out point left or right.

The clip box shortens or lengthens to represent the duration change; and all the clips that follow are adjusted (rippled) by the trim amount.

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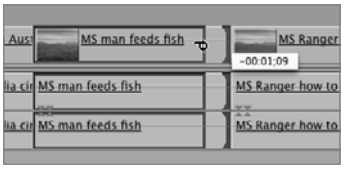


Out point trimmed earlier to shorten the clip

NOTE ▶ Like clips, gaps can also be trimmed using the Ripple tool; however, you will not see the tail of the ripple tool flip to point to the gap side of the edit.

To trim using keyboard shortcuts:

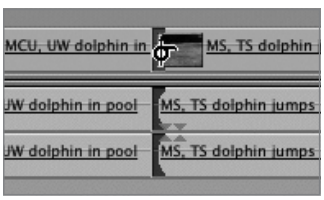
1. Click an edit point using either the Roll or Ripple tool. You can press the keyboard shortcut V to select the edit point, and U to cycle sides.
2. *Do one of the following:*
   - Press the < or > key to trim one frame. These act like the Avid Trim Frame keys.
   - Press Shift-< or Shift-> to move the multiframe trim amount.
   - Press the Left or Right Bracket key ([or]) to trim one frame.
   - Press Shift-[or Shift-] to trim the multiframe trim amount.

TIP If you want the multiframe trim amount in FCP to match Avid's, go to the User Preferences Editing tab and enter 10 in the Multiframe Trim field.

To enter a trim amount:

1. Select an edit transition using one of the trim tools.
2. Type a minus (–) and then the amount (as you would in Avid) for a negative trim, or just type the trim amount for a positive trim.

   This amount appears at the top of the Timeline.



3. Press Return.

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To trim using the Selection tool:

1 Press A to return the pointer to the default Selection tool.

2 Drag one end of a clip left or right.

NOTE ▶ This method is similar to the Avid 5 Overwrite Trim tool.

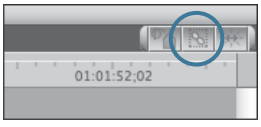
Depending on whether the clip is "open ended," this method of trimming in the Timeline may be limited by adjacent clips or produce a gap. You will learn how to remove gaps in Lesson 6.

NOTE ▶ With snapping turned on (N), the edit point will snap to the playhead location, as well as a mark In, Out, or locator point.

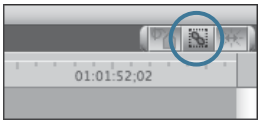
To create L-cut and split edits:

FCP remembers which audio and video clips were captured together and binds or "links" those clips in the Timeline. This can be helpful when you want to trim both the video and audio tracks of the same clip by the same amount. But when you want to trim only one track of a clip, you must override the FCP default linking system by toggling linked selection. In Avid 5, the option to toggle Link Selection is also available and even uses the same keyboard shortcut as FCP.

1 To select just the video or audio track of a linked clip, turn off the Linked Selection control in the Timeline button bar, or press Shift-L. This will allow you to select just the audio or video tracks to trim.



Linked selection on



Linked selection off

NOTE ▶ If a clip's audio tracks are a stereo pair and you click one audio track, both tracks are selected even if linked selection is turned off. If you need to access one track of a stereo pair, you must first turn off the clip's stereo pair status by selecting the clip, and choosing Modify > Stereo Pair.

2 From the Tool palette, choose the Roll tool, or press R.

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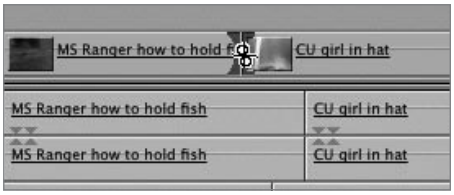
3 Drag the clip's audio or video edit point left or right.

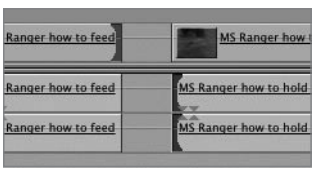


TIP To temporarily override linked selection, select the Ripple or Roll tool and Option-click an edit point.

Using Asymmetrical Trimming

Like Avid, Final Cut Pro can trim two or more edit points on different tracks in two directions at the same time; this is often referred to as *asymmetrical trimming*. But there are some differences in how FCP approaches this type of trimming.

First of all, you get different asymmetrical trim behavior depending on which side of a clip and which track you trim. In Avid, because filler is like a clip, you get a single kind of drag-trim behavior for each selected trim and track. In FCP, even though gaps are not treated the same as clips, they can be included in the trim when applying an asymmetrical trim. Also remember that many Avid versions assume that no tracks are bound together or linked as you trim, while FCP defaults to selecting all linked tracks in a clip, similar to having Link Selection turned on in Avid 5.



One asymmetrical trim setup

MS Ranger how to feed
MS Ranger how to feed
MS Ranger how to hold
MS Ranger how to feed
MS Ranger how to hold
Australia SFX
Australia SFX

Another asymmetrical trim setup

To trim multiple edit points:

1 From the Tool palette, choose the Ripple tool, or press RR.

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2 If linked selection is active in the Timeline, Option-click the first edit point you want to trim; if linked selection isn't active, just click the edit point to select it.

3 Command-click additional edit points.

4 Enter an amount for the trim and press Return.

TIP To roll one clip's audio and a different clip's video, or vice versa, Option-click one edit point with the Roll tool and Command-click additional edit points. Enter a trim amount and press Return.

Trimming in the Viewer

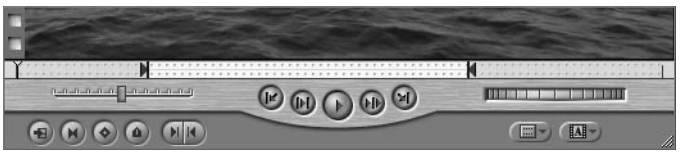
The Final Cut Pro Viewer is used for more than just viewing source material. For example, you can also edit clips, transitions, filters, motion effects, and titles from the Timeline in this window. To work with a clip that has already been edited into a sequence, you must first open it from the Timeline.

NOTE ► While working in the Viewer, you can trim both the head and tail of a single clip or view audio waveforms in the Audio tab, something you cannot do in the Trim Edit window.

To open a sequence clip into the Viewer:

In the Timeline, *do one of the following:*

- Double-click the clip you want to trim
- Select a clip you want to trim and press Return.



Scrubber bar dots or "sprocket holes" in the Viewer

You can tell whether a clip has been opened from the Timeline by looking at the Viewer scrubber bar under the image. If two lines of dots ("sprocket holes") appear, the clip is a sequence clip and has been opened from the Timeline. (These dots appear

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in the Trim Edit window scrubber bars, as well.) If the bar is clear of dots, you are viewing a source clip that has not yet been edited into a sequence.

To trim a clip in the Viewer:

1 Choose a trimming tool from the Tool palette or press the keyboard shortcut for the desired tool. You can choose the default Selection tool (A), the Roll tool (R), or the Ripple tool (RR).

2 Drag an edit point in the Viewer scrubber bar.

The pointer will turn into the tool you have selected, and the edit point or points will adjust according to the normal behavior of the selected tool.

NOTE ▶ You can also choose the Slip tool and slip a clip in the Viewer. In each situation, the pointer will not change until positioned over an edit point.

With the Ripple tool, like Avid's single-roller, you can make the clip longer than it currently is in the Timeline; all clips that follow are affected by the trim amount. Using the default Selection tool, if a clip is between two other clips in the Timeline, you can only trim that clip shorter. If you try to trim a clip beyond the boundary of a neighboring clip in the Timeline, a Media Limit note will appear, and you won't be able to trim beyond that point. On the one hand, this may seem limiting. But on the other hand, you know you will not affect any other clips with your trim adjustment.

NOTE ▶ As you trim clips, keep in mind that FCP assumes Sync Lock is enabled on all tracks all the time. Turning on the lock for a track in FCP is like turning off sync lock in Avid.

What You've Learned

- As in Avid, you can trim clips in Final Cut Pro by dragging an edit point in the Timeline.
- Opening the FCP Trim Edit window is equivalent to entering Avid's Trim mode.

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- You can open the Trim Edit window by double-clicking an edit point, by lassoing an edit point using the Edit Selection tool (G), or by pressing Command-7.
- In the Trim Edit window, a green bar above either side of the window signifies a single-roller trim; two green bars indicate a dual-roller trim.
- Clicking either side in the Trim Edit window dictates a single-roller trim; clicking in the middle dictates a dual-roller trim.
- The FCP Roll tool (R) is equivalent to Avid's dual-roller Trim mode.
- The FCP Ripple tool (RR) is equivalent to Avid's single-roller Trim mode.
- You can make a trim by entering a numerical trim amount in the Trim Edit window.
- You can perform J-K-L trimming, or dynamic trimming, in FCP. You can toggle it on or off via a checkbox in the Trim Edit window or in the Editing tab of the User Preferences window.
- When dynamic trimming is active, press K to execute a trim.
- You can trim an edit point in the scrubber bar of the Trim Edit window by dragging one of the blue edit point triangles.
- You can trim directly in the Timeline using the Ripple and Roll tools, or by selecting an edit point with a trim tool and entering a numerical trim value.
- When you ripple or roll an edit in the Timeline, a two-up display appears in the Canvas, similar to Avid's Small Trim mode.
- To select and trim just an audio or video track of a clip with linked tracks, you must first turn off the Linked Selection control in the Timeline button bar. You can also Option-click one track to override linked selection.
- To change the status of a clip's stereo pair audio tracks to mono, select the tracks and choose Modify > Stereo Pair.
- You can trim multiple edit points in an asymmetrical trim by selecting a trim tool, Option-clicking the first edit point, and Command-clicking additional edit points.
- You can trim a sequence clip in the Viewer window after double-clicking it in the Timeline.
- A sequence clip opened from the Timeline displays two rows of dots ("sprocket holes") in the Viewer scrubber bar. Source clips prior to editing to the Timeline do not display these dots.
- You can trim an edit point using the default Selection tool (A), but you will be limited by adjacent clips or leave a gap.

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Keyboard Shortcuts

G	Select the Edit Selection tool
V	Select the edit point closest to the playhead
Command-7	Load the edit point closest to the Timeline playhead into the Trim Edit window
Command-W	Close the Trim Edit window
U	Cycles the A-side, B-side, or both edit points in the Trim Edit window and in the Timeline
[(Left Bracket)	Trim one frame left
] (Right Bracket)	Trim one frame right
Shift-[(Left Bracket)	Trim the multiframe trim amount set in the Editing tab of User Preferences
Shift-] (Right Bracket)	Trim the multiframe trim amount set in the Editing tab of User Preferences
< (Left Angle Bracket)	Trim one frame left
> (Right Angle Bracket)	Trim one frame right
Shift-<	Trim the multiframe trim amount
Shift->	Trim the multiframe trim amount
J-K-L	When the pointer is over the A- or B-side clip in the Trim Edit window, press the J and L keys to play backward or forward, and press the K key to set the new edit point
R	Select the Roll tool
RR	Select the Ripple tool
Shift-L	Toggle linked selection off or on in the Timeline
Option-click	Temporarily override linked selection to select a single edit point in a linked clip
Command-click	When one edit point on one clip track is selected, select additional edit points to be included in an asymmetrical trim

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5

Goals

Explore the Log and Capture window

Explore the Log and Transfer window

View and mark source material

View, mark, and transfer clips

Select clip settings

Select capture settings and preferences

Set the target bin

Log clips

Capture clips

Batch capture

Customize preferences and clip names

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Lesson **5**

Capturing and Transferring

In Avid, the term *digitize* originally meant converting analog video and audio into digital media files. Over time, converting tape to media files came to be known in Avid as *recording* or *capturing*. And now, with so many available options for card-based cameras, you simply *transfer* files that are already in digital format. In Final Cut Pro, your two ingest options are capturing and transferring. Both systems can digitize analog material with the appropriate converter or capture card.

Similar to the way you organize clips in Avid, in FCP you ingest your material in a master clip bin and later organize the clips in separate bins by scene, type of shot, and so on. Or, you can create target bins and bring your media directly into those bins. You save your media files to what FCP calls scratch disks, Avid's target media drives.

FCP provides some additional logging functionality. You can include markers (what Avid calls Locators) when you capture a clip, and you can use these locators to create subclips while editing. While there is no dedicated Media Log application for FCP, it's easy to use other programs such as Excel or Word to log your clip information and use it later to batch capture your clips.

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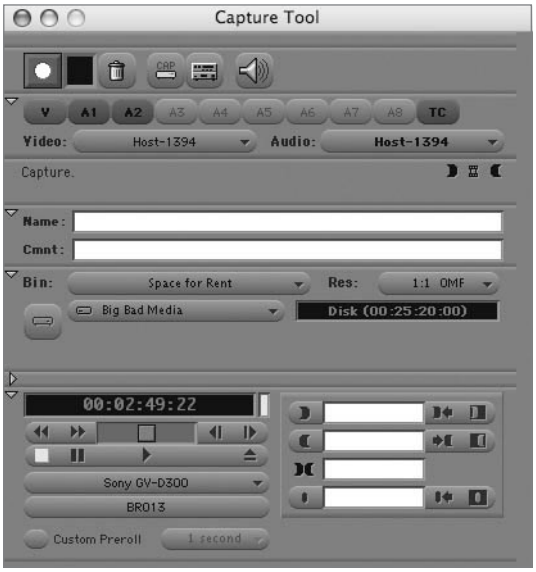
Exploring the Log and Capture Window

In Avid, you access the Capture tool through a menu or keyboard shortcut. To digitize in Final Cut Pro, you access the Log and Capture window in similar ways.



Avid's Capture tool

To open the Log and Capture window:

1. Before opening FCP, make sure the device that holds the media you want to capture is turned on and properly connected.
2. Place the desired source tape into the device.
3. *Do one of the following:*
   - Choose File > Log and Capture.
   - Press Command-8.

The primary difference between Avid Media Composer's Capture tool and the FCP Log and Capture is that FCP includes a preview area to view your source material on your computer screen. There are also three tabs on the right portion of the window that represent different logging and capture options.

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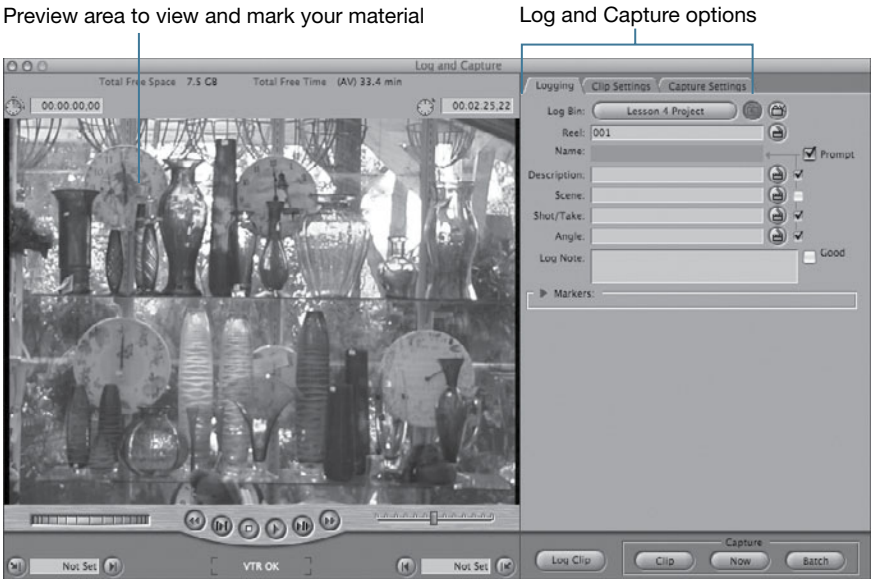
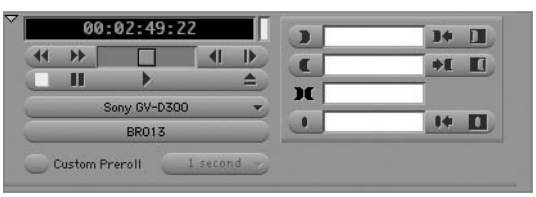


FCP Log and Capture window

TIP The Log and Capture preview area always sizes itself to the Canvas window size. To see a larger Log and Capture window and preview area, first choose Window > Arrange > Two Up and then open Log and Capture.

Viewing and Marking the Source

In Avid's device control area, you can play, stop, rewind, fast forward, pause, jog, and scrub your source. You can also mark In and Out points for the clip you want to capture and cue to these points. In Final Cut Pro, all of these options and controls are in the preview area of the Log and Capture window. You enter the reel name or number on the Logging tab. The good habits you acquired as an Avid editor will pay off handsomely in FCP if you remember to assign a valid reel ID before viewing, logging, or capturing any source material.



Avid Capture tool's play and mark area

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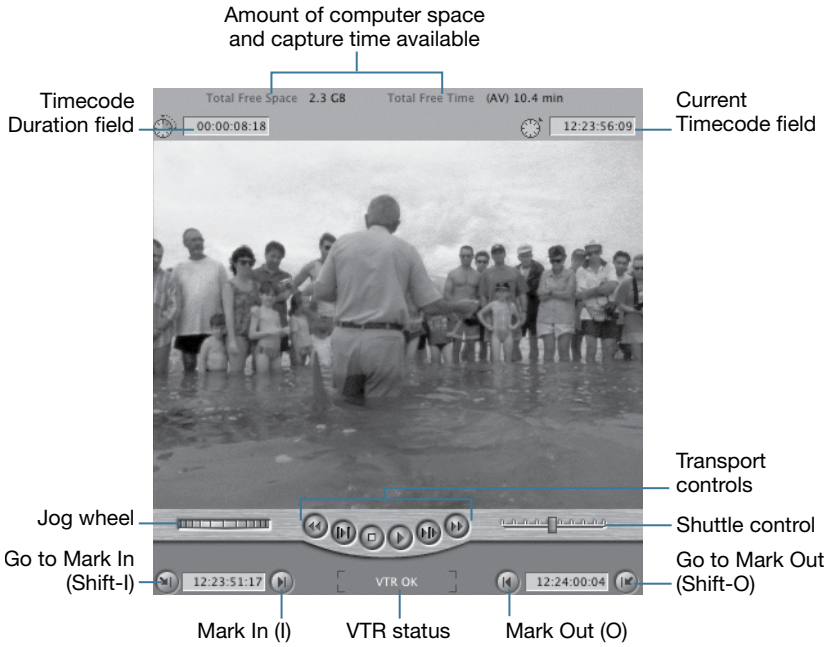
The Log and Capture window's preview area has many features in common with the FCP Viewer window. For example, the Timecode Duration field at the upper left and the Current Timecode field at the upper right are the same. Also, the shuttle control, the jog wheel, and the transport controls are placed below the preview area, as they are in the Viewer. The keyboard shortcuts for playing, shuttling, and marking are also the same.



Log and Capture preview area

To view and mark a clip:

1. Click the Play button or other transport controls to locate the footage you want to capture.
2. Click the Mark In button, or press I, to mark an In point.
3. Click the Mark Out button, or press O, to mark the Out point.
4. To view the marks or marked area, *do one of the following:*
   - Press Shift-I to go to the In mark.
   - Press Shift-O to go to the Out mark.

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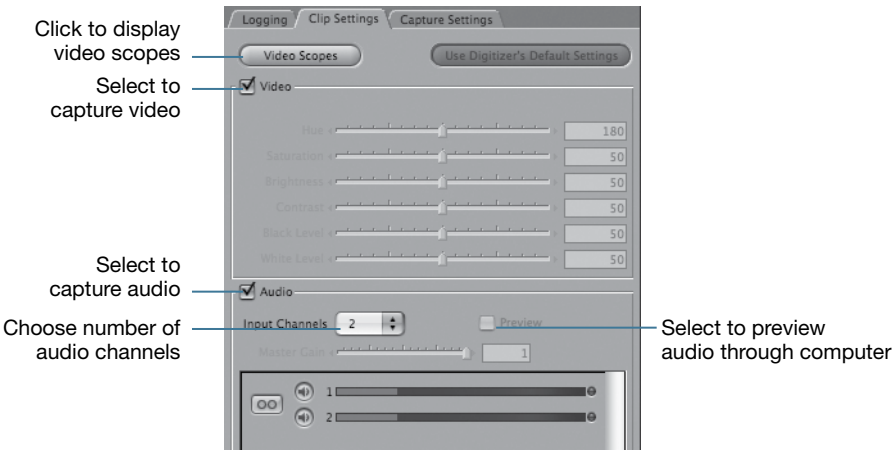
- Click the Play In to Out button to view the marked area, or press Shift-\ (backslash).

Selecting Clip Settings

In Avid, you select the audio and video tracks, target bin, Log or Digitize mode, compression rate, and media target drive in the upper half of the Capture Tool. In Final Cut Pro, these options are organized in the Clip Settings and Capture Settings tabs. Here, we'll cover the options on the Clip Settings tab.



Clip Settings tab

Audio and Video Track Selection

As in Avid, you can choose to capture just audio, just video, or both. The upper slider area is used to control video input levels for analog video only. (If you don't have a capture card for analog video, this area is dimmed.)

To select tracks and format:

1 In the Clip Settings tab, select Audio, Video, or both.

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2 In the Audio area of the tab, from the Input Channels pop-up menu, choose the number of audio tracks you want to capture. Then click the Toggle Stereo/Mono button to choose whether you want to control the two audio tracks individually (mono) or together (stereo pair).

TIP Click the Video Scopes button to open the Waveform Monitor and Vectorscope in the interface. Remember that digital video levels can't be changed during capture, but you can check them here and adjust them during editing.

Selecting Capture Settings

As in Avid, in Final Cut Pro you must set the destination and resolution of the material you are going to capture. In FCP, these options appear on the Capture Settings tab of the Log and Capture window. You also use this tab to specify how your device will be controlled. For instance, FCP supports both FireWire and several popular serial control protocols, such as RS-422. You can even repurpose your Avid deck control cable by adding a USB adapter on the Macintosh end. Many FCP users choose RS-422 control to improve the accuracy of FireWire timecode while capturing DV.

Capture Settings tab

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NOTE ► If you programmed an Easy Setup for your specific media format, you will see that preset in the Capture/Input pop-up menu, or you can choose different options.

Device Control

In FCP, you can control devices through FireWire in both NTSC and PAL standards. You can also capture material directly from a camera by choosing Non-Controllable Device. If your deck supports RS-422 control, you can choose this as an option in FCP.

Device Control options

Capture/Input

The Final Cut Pro Capture/Input pop-up menu in the Log and Capture window is exactly like the Res pop-up menu in Avid's Record tool. Just as the Record tool menu is a "back door" to changing Video Resolution settings found in Media Creation, the Capture/Input menu in the Capture Settings tab is a back door to the Capture Presets found in the FCP Audio/Video Settings and Easy Setup presets.

FCP is installed with numerous capture presets. Even more presets are available if you install a third-party capture card, which gives you numerous options for working with any format. You can capture in the native format of your source footage, or to save hard-disk space and increase performance, you can compress the footage on ingest to a lower-resolution format. You also have a set of Apple ProRes 422 formats that perform a similar role as Avid's DNxHD. Unlike traditional "offline" formats, ProRes 422 creates smaller size files at lower data rates with no loss in quality. HD content captured using one of the ProRes presets is indistinguishable from uncompressed HD video and takes up less space than uncompressed SD files.

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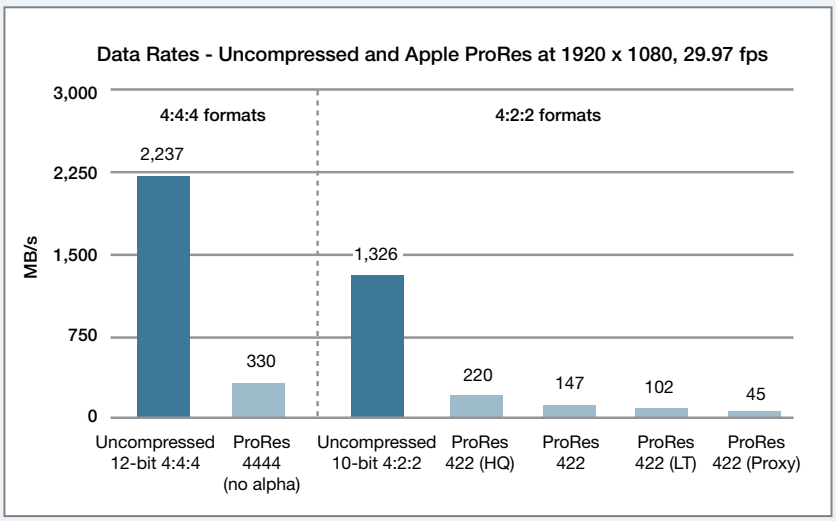
Apple ProRes Codecs

The Apple ProRes codecs were designed to provide a solution for demanding HD workflows. By taking advantage of multicore processors, these codecs offer flexibility and performance without the need for additional hardware when encoding or decoding. The performance of Apple ProRes codecs scales according to your system configuration, which means that the decoding time per frame decreases as the number of available processors increases. When the system spends less time decoding, it has time for more real-time effects processing.

As part of a post-production workflow, the Apple ProRes codecs provide a wide range of quality and use. For example, you can capture from a 4:4:4 source, such as an HDCAM SR deck, and convert directly to the Apple ProRes 4444 codec; or capture from a high-quality 4:2:2 or 4:2:0 source to the ProRes 422 (HQ) format. If multiple cameras were used to shoot your footage, you can standardize their formats by capturing to a single codec for post-production, perhaps the ProRes 422 or ProRes 422 (LT). You can also create an offline workflow using the ProRes 422 (Proxy) format.



MORE INFO ► For more information about Apple ProRes 422, go to www.apple.com/finalcutstudio/finalcutpro/support.html.

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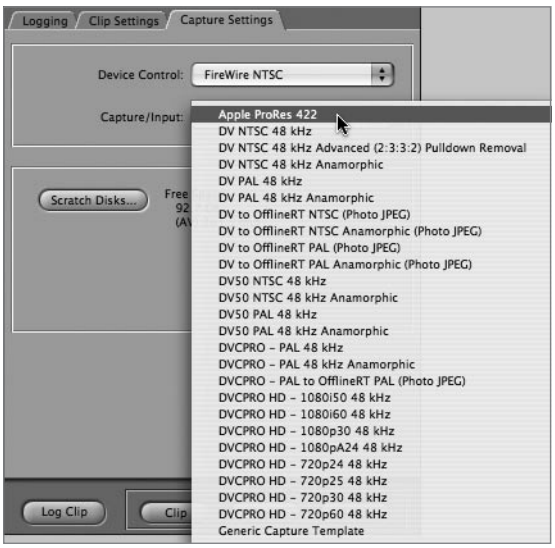
Scratch Disks (Target Media)

In Avid, you capture your media to a target media disk drive. FCP refers to this drive as the *scratch disk*. A scratch disk can be a partitioned drive, a FireWire drive, a folder on a server, or any other acceptable drive or drives that facilitate the capture process. It can also be your computer's hard drive, although this is not optimal or recommended. Like Avid, FCP indicates the amount of disk space and capture time available on the selected scratch disk. Unlike older Avids, where separate drives are used to capture audio and video media files, FCP likes video and audio interleaved into the QuickTime format.

To set capture settings:

1 From the Device Control pop-up menu, choose the device control you will use to capture your media.

2 From the Capture/Input pop-up menu, choose the appropriate preset for the media you want to capture.


Logging
Clip Settings
Capture Settings
Device Control:
FireWire NTSC
Capture/Input:
Apple ProRes 422
DV NTSC 48 kHz
DV NTSC 48 kHz Advanced (2:3:3:2) Pulldown Removal
DV NTSC 48 kHz Anamorphic
DV PAL 48 kHz
DV PAL 48 kHz Anamorphic
DV to OfflineRT NTSC (Photo JPEG)
DV to OfflineRT NTSC Anamorphic (Photo JPEG)
DV to OfflineRT PAL (Photo JPEG)
DV to OfflineRT PAL Anamorphic (Photo JPEG)
DV50 NTSC 48 kHz
DV50 NTSC 48 kHz Anamorphic
DV50 PAL 48 kHz
DV50 PAL 48 kHz Anamorphic
DVCPRO – PAL 48 kHz
DVCPRO – PAL 48 kHz Anamorphic
DVCPRO – PAL to OfflineRT PAL (Photo JPEG)
DVCPRO HD – 1080i50 48 kHz
DVCPRO HD – 1080i60 48 kHz
DVCPRO HD – 1080p30 48 kHz
DVCPRO HD – 1080pA24 48 kHz
DVCPRO HD – 720p24 48 kHz
DVCPRO HD – 720p25 48 kHz
DVCPRO HD – 720p30 48 kHz
DVCPRO HD – 720p60 48 kHz
Generic Capture Template
Scratch Disks...
Log Clip
Clip

Capture/Input options

3 Click the Scratch Disks button.

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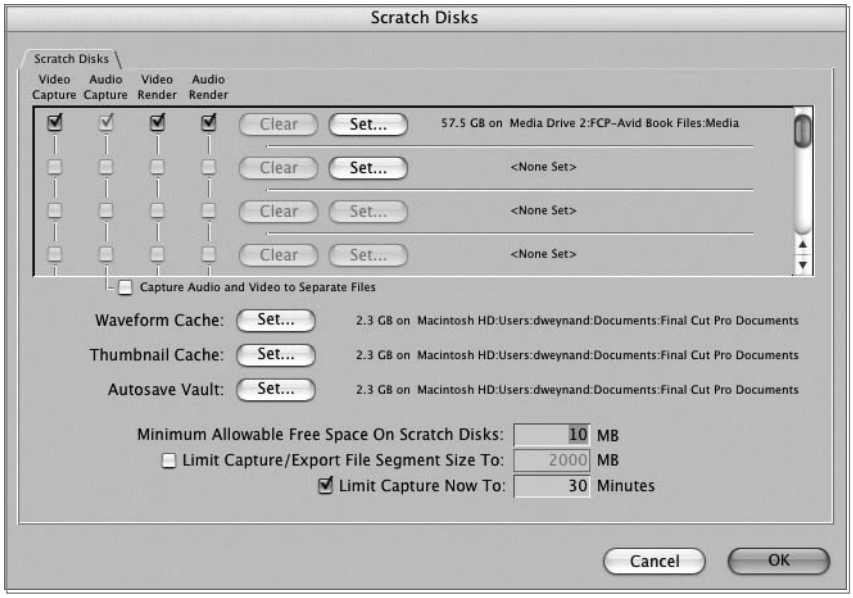
4 In the Scratch Disks window, click Set and navigate to your target drive or scratch disk.



When you set a scratch disk, FCP automatically creates three folders on each scratch disk (target media) location: Audio Render Files, Capture Scratch, and Render Files. When you capture clips, they are saved into the Capture Scratch folder. When you render files during editing, the render files are saved to the appropriate render file folder.

NOTE ► You can set additional scratch disks for captured clips or render files by clicking the Set button on subsequent rows. With a second scratch disk set, you can click the boxes of the items you want to be saved in that location and deselect any items from any other scratch disk locations. When more than one scratch disk is set, FCP defaults to the one with the most free space.

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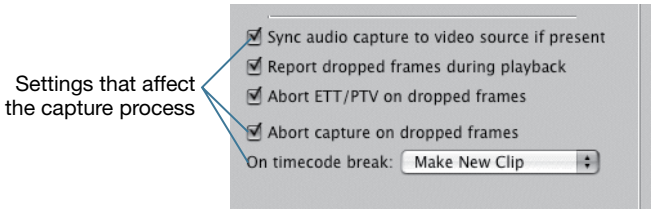
Capture Preferences

The Final Cut Pro User Preferences window (Option-Q) has settings that affect the capture process. As with all settings, you may need to experiment with what the preferences do and how they work in your particular equipment configuration.


Settings that affect the capture process
Sync audio capture to video source if present
Report dropped frames during playback
Abort ETT/PTV on dropped frames
Abort capture on dropped frames
On timecode break:
Make New Clip

To set user preferences for capturing:

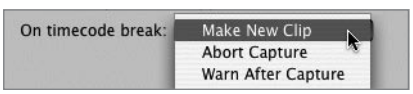
1. Press Option-Q to open the User Preferences window.

2. Select the "Sync audio capture to video source if present" checkbox if you are capturing audio from a device controllable audio deck for the purpose of synchronizing it with a video clip.

   Selecting this option ensures that audio captured from a genlocked audio deck will be accurately synced.

3. Select the "Abort capture on dropped frames" checkbox if you want FCP to stop capturing if or when a frame is dropped.

4. From the "On timecode break" pop-up menu, choose one of the following:



   Make New Clip—Creates a new clip every time there is a break in source timecode. New clips use the name of the previous clip with the addition of a number. This option is good when batch capturing an entire tape at once, assuming there are breaks at the end of each shot.

   Abort Capture—Stops capturing when FCP detects a timecode break.

   Warn After Capture—Continues capturing when the timecode breaks but provides a warning. The media file is preserved. This is useful because FCP is very sensitive and sometimes detects small anomalies at the very beginning of a clip that don't affect sync or capture.

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NOTE ▶ If you have trouble capturing with these options, disable one or more and try to capture again.

DV Start/Stop Detection

An alternative to having FCP create new clips is to open a clip captured from a DV format (DV, DVCAM, DVCPRO, DVCPRO 50, or DVCPRO HD) in the Viewer and choose Mark > DV Start/Stop Detect. This function will place markers (like Avid locators) in the clip automatically wherever the camera started or stopped. Then you can create subclips using the markers (Avid's locators). Markers are covered in more detail in Lesson 6.

Targeting a Bin

What Avid calls a target bin, Final Cut Pro calls a logging bin. You can set a logging bin in several ways: through a main menu, through a shortcut menu, or from the Logging tab in the Log and Capture window. As with Avid, you're free to move clips to different bins afterward as you organize for editing.

Avid target bin pop-up menu

FCP uses the last project opened as the default logging bin, but you can change the logging bin at any time. Since you can work with multiple projects open at the same time in FCP, make sure you have selected the project tab you want to capture to before you initiate capturing.

To set a logging bin:

1. In the Browser, click the tab of the appropriate project, or open that project.
2. If you want to capture directly to a bin, create a new bin or select a bin already in the project to which you want to capture.

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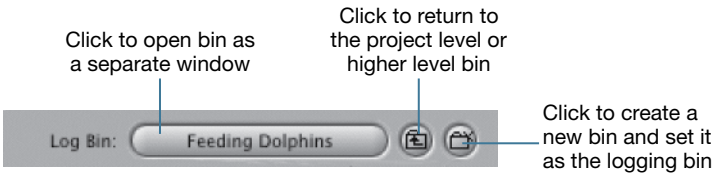
3 To set the bin as the logging bin, as opposed to the project, which is the default target, *do one of the following:*

- Control-click the bin and choose Set Logging Bin from the shortcut menu.
- Select the bin and choose File > Set Logging Bin.

A tiny film slate icon appears next to the current logging bin or project.

Project as target Bin as target

4 To create a new logging bin from the Log and Capture window, click the New Bin button.


Click to open bin as a separate window
Click to return to the project level or higher level bin
Log Bin:
Feeding Dolphins
Click to create a new bin and set it as the logging bin

Logging Clips

Final Cut Pro performs the logging process the same way Avid does, but it provides a few extra aids along the way. While logging clips, you can choose to be prompted for information, to automatically update scene or shot numbers, to flag good clips so you can easily find them in the Browser, and even to enter markers that you can use later while editing.

The FCP Logging tab helps you organize the logging process into a rhythm, starting with your reel number. The default reel number in FCP is 001. Just as in Avid systems, a proper reel number is crucial to utilize dupe detection and for accurate batch capture. Also, if you've chosen to capture at other than full quality, reel numbers are essential for later batch recapture of your clips.

Avid Log mode

FCP Log Clip button

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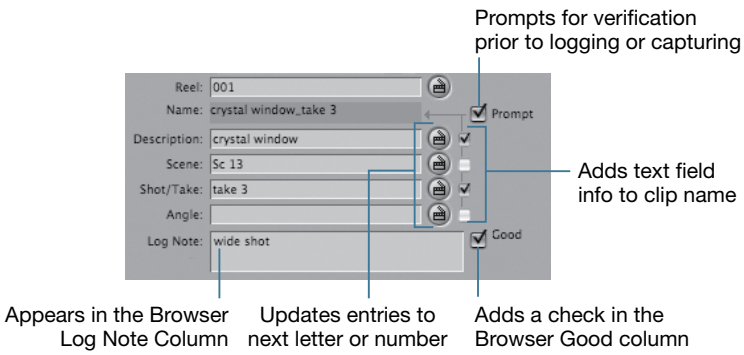
Naming Protocol

On the Logging tab, note that the Name box is gray. This isn't a text-entry field but rather a summation of the four text-entry fields beneath it: Description, Scene, Shot/Take, and Angle. To the far right of each of these four entry fields is a checkbox. If the box is selected, that information will be added to the Name field. You can include one, two, three, or all four of these fields to create the Name text. If none of the boxes is selected, the clip name will default to the Description field text. Any information entered in any of these fields will appear in those columns in the Browser when in View as List. The clip name entered here is also used to name the actual media file.

TIP Because Mac and PC operating systems use the forward and backward slashes to indicate file path names, you should avoid using them when naming clips.



To log a clip:

1. Set the logging (target) bin or project.
2. Enter the reel name or number.
3. Enter a clip description.
4. Enter a scene number, if applicable.
5. Enter shot and take information, if applicable.

NOTE ▶ Remember to click the checkboxes for Scene and Shot/Take if you want them to appear in the name on the clip. Leaving them deselected will still place the information in the corresponding Browser columns.

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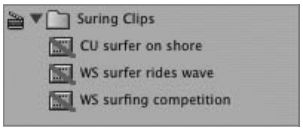
6 Make sure you have marked an In and Out where desired.

TIP You can use the J-K-L keys to shuttle your source tape. Make sure to click the preview area of the Log and Capture window to ensure that you aren't accidentally typing J, K, or L in a text-entry field.

7 At the bottom of the Logging tab, click the Log Clip button. You can also press the FCP shortcut key, F2, to deposit the logged clip into your logging bin, if you haven't assigned that key to one of your Mac OS X Exposé settings.

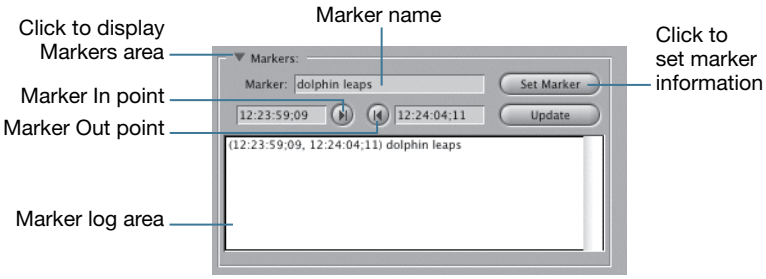


8 Repeat the process as needed for each source reel.

To use markers while logging:

Although you can't add markers on the fly as you capture, as you can in Avid, you can set them prior to capturing the clip.

1 Click the Markers disclosure triangle to view the Marker options.



2 Play the tape and click the Marker In button where you want to place the first marker.

3 Enter a marker name in the Marker field.

4 Click the Set Marker button to enter the information.

TIP You can also set Out markers that can be used in editing to create a subclip from the In to Out marker.

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Capture Options

In Avid, you can capture clips without logging them first, or by logging first and then capturing. The same is true of Final Cut Pro. Also, as in Avid, FCP can capture one clip or batch capture a group of clips. Like Avid, FCP can also capture from a noncontrollable device.

FCP log and capture buttons

These are the FCP capture buttons:

- **Clip**—Captures a single marked clip.
- **Now**—Begins capturing immediately allowing you to capture on the fly. This is the operation that must be used for noncontrollable devices.
- **Batch**—Captures a group, or batch, of logged clips.
- **Log Clip**—Saves the logging information as an offline clip without capturing any media.

To use Capture Clip:

1. Set the logging bin as described earlier in the lesson.
2. Mark In and Out points for the clip you want to capture.
3. Enter name information for the clip.
4. Click the Capture Clip button.
5. If the Prompt checkbox was selected prior to capture, a Log Clip dialog appears in which you can edit the clip information you entered in the Log tab (including adding or removing a Mark Good selection) or just click OK.

   FCP will begin to capture the clip. After the clip is captured, it appears in the current logging bin.

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To use Capture Now:

While the Capture Now function lets you capture from a noncontrollable device, you can also use it to capture on the fly from a controllable deck, as you may be used to doing in Avid.

1 Set the logging bin.

2 Cue the noncontrollable device to about 10 seconds before the desired material.

3 Press Play on the device.

4 A few seconds before the desired material appears, click the Capture Now button, or press Shift-C.

5 To stop capturing, press the Esc (Escape) key.

Batch Capturing

The Final Cut Pro batch capture mode operates much like Avid's. You log a group of clips from each source tape and then capture the clips in one batch. Batch is the third Capture button on the Logging tab.

Offline Clips

In Avid and FCP, clips that have been logged but not captured are called *offline* clips. The information about the source content is there but without the content itself.

Avid media offline clip in Source monitor

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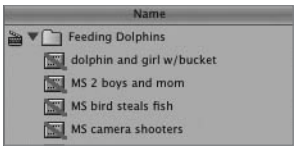
In FCP, when a clip is offline, a red diagonal line appears over the clip icon in the Browser.



FCP offline clips in Browser

To batch capture a group of clips:

1. Set a logging bin for the new clips you want to log.
2. Log the clips you want to capture into this bin.
3. To capture specific clips, select the clip or clips you want to capture in the logging bin.
4. Click the Capture Batch button, or press Control-C. (Or you can also choose File > Batch capture.

   A Batch Capture window appears.
5. From the Capture pop-up menu, *do one of the following:*
   - Choose "All Items In Logging Bin" to capture all items.
   - Choose "Offline Items In Logging Bin" to capture just those items that are offline or have not yet been captured.
   - Choose "Selected Items In Logging Bin" to capture those items you selected in step 3.

Batch Options

When you batch capture in FCP, you can add handles to each clip. You can also change the capture preset prior to capturing the logged clips. If you have changed any video or audio settings for an analog clip, those settings will be attached to the clip if you capture with the "Use Logged Clip Settings" option.

TIP If you logged a clip with mono audio channels and would rather capture it with stereo channels (or vice versa), choose Modify > Clip Settings and then choose the desired tracks and channels, You can also choose this option if you've logged a clip as audio only and then decide to capture the video as well.

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NOTE ▶ You can create batch lists in a spreadsheet or word processing program in plain-text format. Or you can export an FCP batch list and use it as a template to create other batch lists, and import that into an FCP bin as a capture batch list. Importing and exporting batch lists is discussed in Lesson 12.

Exploring the Log and Transfer Window

The second ingest option is to transfer footage from a media card or device, such as solid-state cards like SDHC or Panasonic's P2, optical disks such as Sony's XDCAM, or other hard-disk camera recorders. In these situations, the footage is already in a file format so you need only to transfer it from the storage device to the computer and into your Final Cut Pro projects. This process is typically faster and allows you to multitask by performing editing functions in the foreground while you ingest media files in the background.

The Log and Transfer window provides ingest controls similar to those in the Log and Capture window that allow you to preview your files, name them, set In and Out points, and so on. If you're familiar with the capture window, you can easily navigate the Log and Transfer window.

To open the Log and Transfer window:

1. Before opening FCP, make sure the media card or device is inserted into the computer or properly connected.

2. *Do one of the following:*

   - Choose File > Log and Transfer.
   - Press Command-Shift-8.

The four areas in the Log and Transfer window provide functions similar to those in the Log and Capture window:

- **Browse**—Display all mounted media volumes and their clips.
- **Preview**—Similar to the Preview area of the Log and Capture window, here you view clips, mark In and Out points, and add clips to the Transfer Queue. You can use the Mark shortcut keys, I and O, along with modifiers Shift and Option to go to or delete a mark. You can also use the Spacebar and L key to play a clip forward. You can't use the J key to play backward or the other J-K-L shortcuts to move frame by frame or in slow motion.

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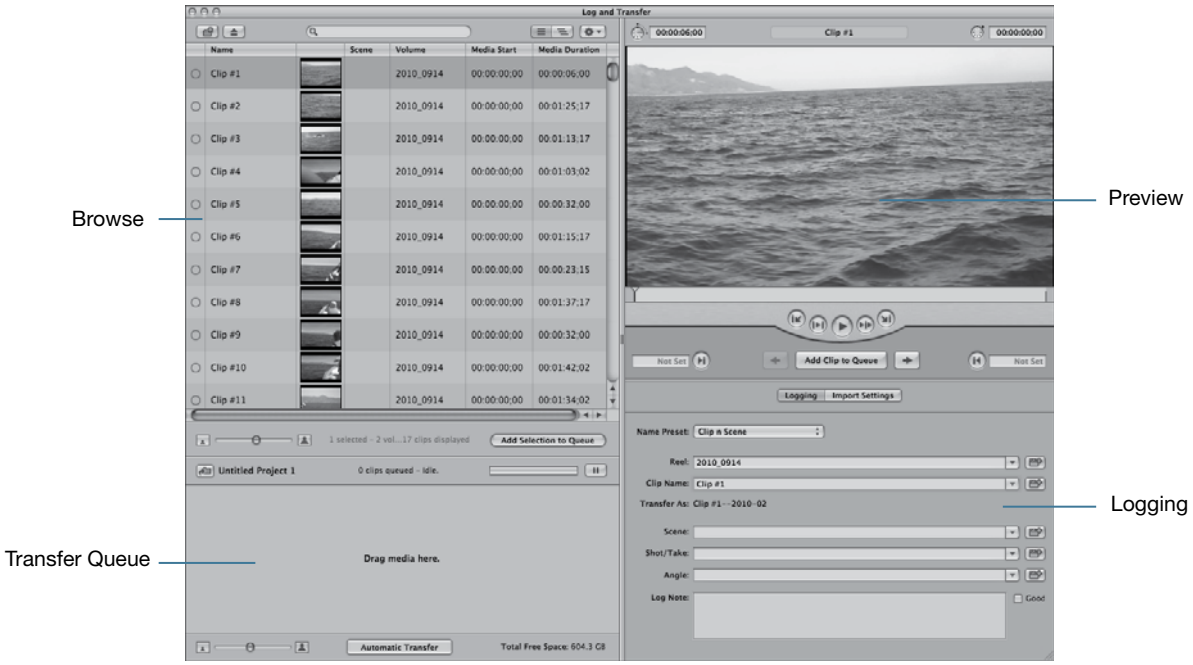
- **Logging**—Name clips and enter relevant information before ingesting. As with the Clip Settings tab in the Log and Capture window, you click the Import Settings button to select audio or video channels.
- **Transfer Queue**—Display a list of clips currently in line to be ingested.



FCP Log and Transfer window

TIP You can dynamically resize the Log and Transfer window by dragging any of the resize bars near the edge of the window or between panes. For example, to preview a clip in a larger screen, drag the vertical resize bar to the far left to completely hide the Browse area.

Transferring Clips

When your footage is on a media card or device, you can forget about shuttling a videotape backward and forward to cue to a location. Footage is already in clip formation (based on camera start/stop points) so all you need to do is "click to play."

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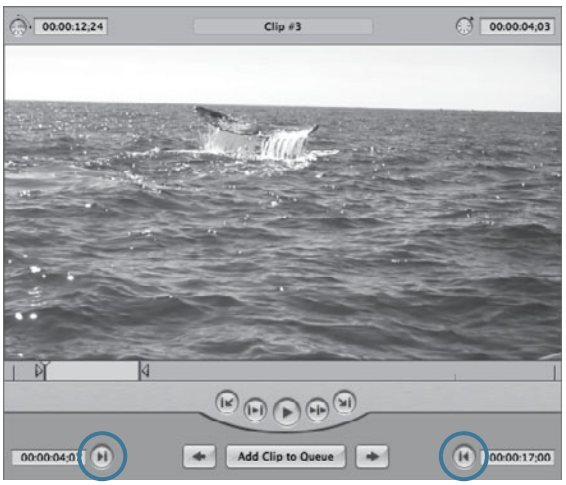
To view, mark, and log a clip:

1 In the Browse area, click a clip to open it into the Preview area.

2 Press the Spacebar to play the clip, or press L to navigate to the point in the clip where you want to begin ingesting.

3 To ingest a portion of a clip, set In and Out points by pressing I or O or by clicking the In or Out button at the desired location.



Mark In button Mark Out button

4 To preview the marked portion of the clip, click the Play In to Out button, or press Shift-\ (backslash).

5 In the Logging area, enter any desired clip information such as reel number, clip name, scene, shot/take, and so on.

6 To change the audio or video channels—for example to ingest just audio or just video—click the Import Settings button and choose the appropriate options.

To add a clip to the Transfer Queue:

When you mark a clip in the Preview area, you ingest only the marked portion of that clip. But you can also transfer one or more clips without viewing or marking them first.

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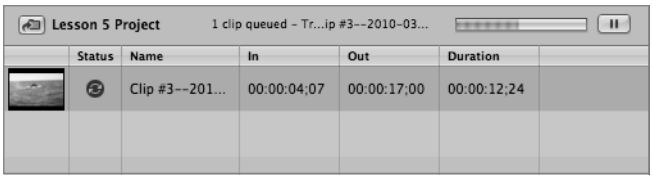
1 With a clip open in the Preview area, mark it as desired, and then click the "Add Clip to Queue" button to begin ingesting the clip. Only the marked portion will be transferred.

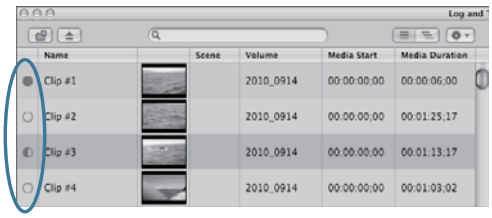


Clip ingest status in the Transfer Queue area

2 To transfer a clip from the Browse area without previewing it, drag it into the Transfer Queue area.

3 To transfer a group of clips at one time, select the clips in the Browse area and then drag them into the Transfer Queue area.

When you transfer a marked clip, a half-filled circle called a media map indicator appears next to the clip name in the Browse area to indicate that only a portion of that clip was transferred. A solid indicator shows that the entire clip was transferred, and an empty indicator shows that no part of that clip was transferred.



Media map indicators

Adding Volumes and Changing Preferences

At times, FCP may detect more than one media card or *volume*. For example, you may have backed up the contents of a card directly on your computer (or an attached FireWire drive) and also inserted a card in a media device. FCP will display whatever contents it finds from any volumes it can detect. Those contents are displayed in the Browse area of the Log and Transfer window. But you can also search or browse a specific volume and add it to the display list and change how you view the card's contents. You can also choose to transfer the footage as a specific format.

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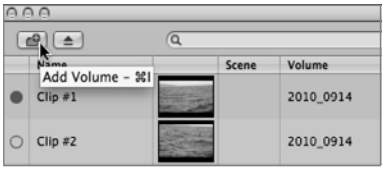
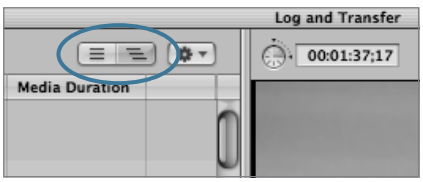
To add a volume in the Browse area:

1 Insert any card volumes you want FCP to see. In the upper left of the Browse area, click the Add Volume button.

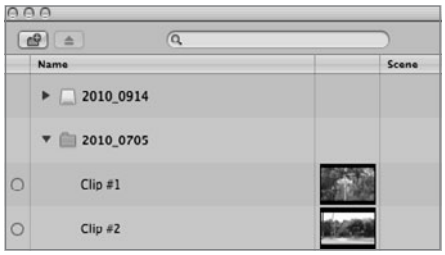


2 Navigate to the volume you want to add, and click Open. You can also navigate to a disk image (.img) and open that.

3 To display the volume contents in other than a flat list view, in the upper right of the Browse area, click the Hierarchical List View button.



Flat and Hierarchical List View buttons



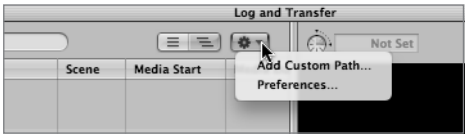
Volumes displayed in Hierarchical List view

The Hierarchical List view allows you to hide and show one volume at a time rather than displaying all the clips in a Flat List view.

TIP To automatically transfer an entire volume of clips when a volume is mounted, in the Transfer Queue area, click the Automatic Transfer button.

To change the Transfer preferences:

1 In the upper right of the Browse area, from the Action pop-up menu, choose Preferences.



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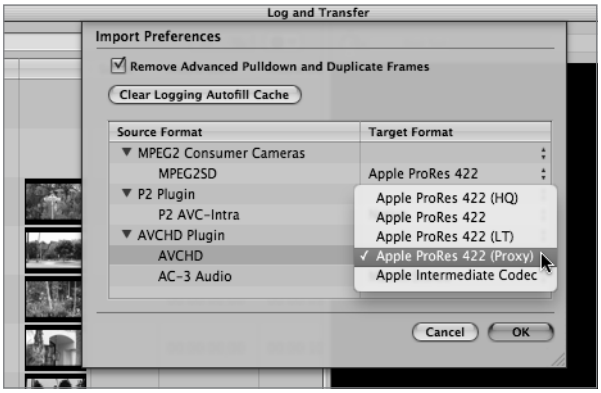
2 In the Source Format column, select the originating format, such as AVCHD. From the Target Format pop-up menu, choose the desired format.

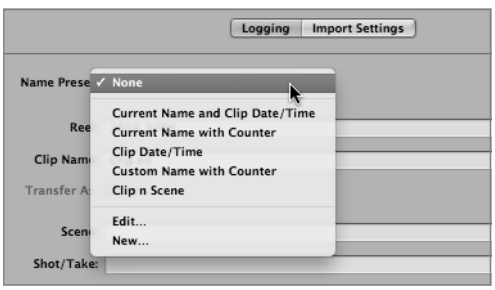


Changing Naming Preferences

You can rename a clip in the Clip Name column in the Browse area or in the Clip Name field in the Logging area of the Log and Transfer window. But you can also choose a preset naming option or create a customized name. Doing so allows you to maintain consistency and use similar names as you transfer a group of clips.

To choose a naming option, *do the following*:

1 In the upper left of the Logging area, from the Name Preset pop-up menu, choose one of the preset options.



2 To customize a preset name, choose "Custom Name with Counter," and enter a name in the Custom Name field.

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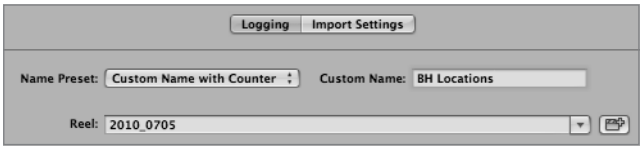
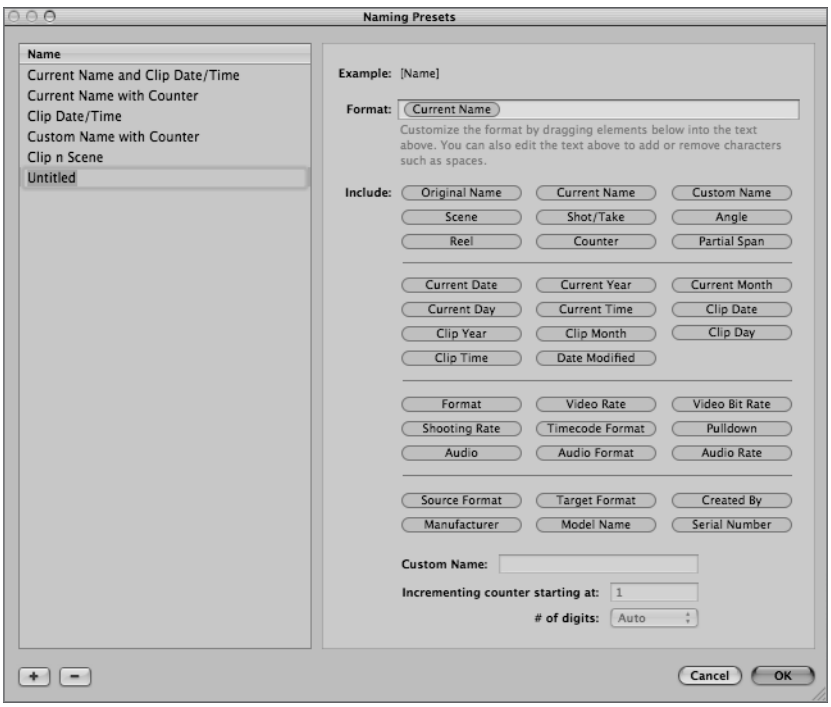


The name you entered will be the name of all of the clips, followed by the number of the item as it was transferred, such as 001.

3 To create a new custom name preset, in the Name Preset pop-up menu, choose New. In the Naming Presets window, enter a name under the Name column, and then drag a name element from the Include list into the Format field. Reposition name elements by dragging them into place, or selecting a name element and pressing Delete.



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TIP You can also edit any of the presets by choosing Edit from the Name Preset pop-up menu. In the Naming Presets window, add to or rearrange the name elements that currently appear in the Format field.

What You've Learned

- The FCP Log and Capture window is similar to Avid's Digitize/Capture tool, although the FCP window includes a preview area to view source material.
- You set your target bin (called a logging bin in FCP) for a specific project or bin.
- You can set a logging bin via the main menu, using a shortcut menu, or on the Logging tab in the Log and Capture window.
- A tiny slate icon identifies the current logging bin.
- The preview area of the Log and Capture window is where you play and view the source footage and mark In and Out points for logging or capturing.
- In FCP, there are three tabs on which you make all of your setting selections.
- The Clip Settings tab is where you select audio, video, or audio and video tracks, and the type of audio (stereo or mono), and where you can open a Waveform Monitor or Vectorscope if needed. When working with analog, you also change incoming video levels here.
- On the Capture Settings tab, you set the scratch disk (Avid's target drive) and resolution of the material as well as the device control.
- When video, audio, and render boxes are selected for a scratch disk, FCP automatically creates three folders in each scratch disk location: Audio Render Files, Capture Scratch, and Render Files. Clips are captured to the Capture Scratch folder.
- Some settings in the User Preferences window apply to the capture process.
- When selected from the menu, Mark > DV Start/Stop Detect places markers (locators) on a clip wherever the camera started or stopped.
- A clip name will consist of entries in the Description, Scene, Angle, and Shot/Take fields, provided their individual boxes are selected.
- You can include markers (locators) as part of the capture process to help create subclips at a later time.
- As in Avid, FCP can capture one clip via the Clip button, or batch capture a group of clips via the Batch button at the bottom of the Logging tab.

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- FCP can capture from a noncontrollable recording device using the Capture Now button. This button can also be used to capture on the fly from a controllable deck as well.
- You can save logging information without capturing a clip with the Log Clip button.
- Logged clips that aren't captured are called offline clips and appear with a red line through them in the Browser.
- If you work with other-than-FireWire-capable formats, you will need a third-party video capture card or device.
- To ingest tapeless media, open the Log and Transfer window from the File menu.
- In the Log and Transfer window, you can ingest footage from media cards and devices.
- You can transcode clips during transfer by choosing a format option from the Preferences pop-up menu.
- You can name clips before transfer or utilize the auto naming aspect in the Logging area of the Log and Transfer window.

Keyboard Shortcuts

Command-8	Open the FCP Log and Capture window
J-K-L	Shuttle your source material
I	Set an In point on source footage
O	Set an Out point on source footage
Shift-I	Cue the tape to the In mark
Shift-O	Cue the tape to the Out mark
Shift-\ (backslash)	In the preview areas of the capture and transfer windows, play the marked portion of the clip
Option-Q	Open the FCP User Preferences window
Control-Q	Open the FCP Easy Setup window
Shift-C	Invoke the Capture Now option
Esc	Stop the Capture Now process
Control-C	Initiate a batch capture
Command-Shift-8	Open the FCP Log and Transfer window

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6

Goals

Select and move clips in the Timeline

Perform drag-and-drop editing

Copy and paste clips

Perform segment mode editing

Work with gaps, master clips, and match frames

Slip and slide clips

Replace, extend, and add edits

Place and edit locators

Gang a clip to a sequence

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Lesson **6**

Advanced Editing

With the basic edit functions and commands under your belt, you're ready to learn how Final Cut Pro handles advanced editing functions. In most of the editing examples that follow, Avid and FCP functions are very similar, so what you'll be learning is what the FCP tools and shortcuts do, not new concepts of editing. There are a few differences to note, however. What Avid calls locators, FCP calls markers, and neither the Avid clipboard icon nor the Clipboard window appears in FCP, although all of the Mac copy and paste shortcuts apply. Also, the use of filler or gaps between clips in the Timeline is handled a little differently.

In this lesson, you will use three FCP editing tools from the Tool palette: the Slip and Slide tools plus the Razor Blade tool, which you can use to add edits. This lesson also covers Timeline editing. In FCP, there are so many ways you can work in the Timeline that some editors cut their entire sequence by using Tool palette tools and accessing Timeline clips directly. This method can really speed up the editing process. If it's not familiar to you yet from your Avid 5 experience, it's certainly worth a try in FCP.

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Selecting Clips in the Timeline

Before jumping into drag-and-drop editing in Final Cut Pro, it's helpful to explore the concept of selecting and moving clips directly in the Timeline. Working with clips in the FCP Timeline feels similar to working with Avid's Segment mode options. In previous versions of Avid, in order to select and move clip segments, you changed to Segment Mode: Insert Segment or Overwrite Segment. In Avid 5, these functions are available without changing modes by toggling the Smart tool in the Timeline palette. FCP, on the other hand, lives in segment mode. In FCP, you can select clips and reposition them wherever you like without entering a different mode of editing.

To follow these steps, edit three or four clips into the Timeline using the methods described in Lesson 2.

To select clips in the Timeline:

1 With the default Selection tool (A), click the last clip in the sequence.

MS man feeds fish
dolphin and girl w/bucket
MS man feeds fish
dolphin and girl w/bucket
MS man feeds fish
dolphin and girl w/bucket

NOTE ▸ Remember, if you click one edge or the other of the clip, it will select the clip's edit points, not the clip itself.

2 To select more than one clip, *do one of the following:*

- Select the first clip of a contiguous group, and then Shift-click the last clip in the group.
- Select one clip, and then Command-click to select additional noncontiguous clips.
- Drag a marquee around the clips in the Timeline you want to select.
- Press GG to choose the Group Selection tool, and then drag over the contiguous clips you want to select.

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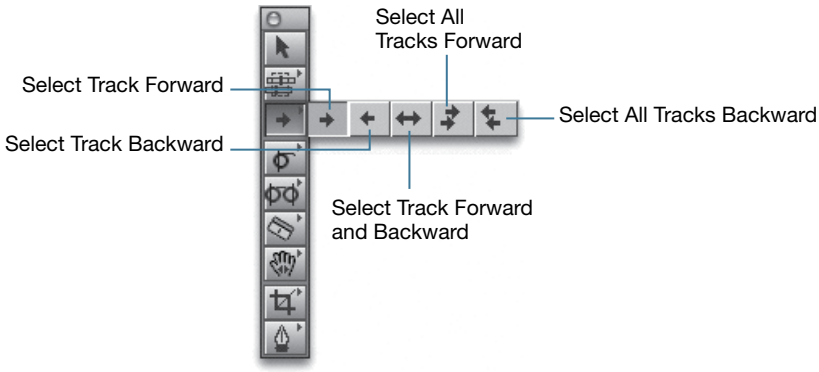
- Use one of the track selection tools to select clips on one or all tracks forward from where you click, backward, or in either direction.



- Press Command-A to select all the clips in the Timeline.

To deselect clips in the Timeline:

Do one of the following:

- Press Command-Shift-A.
- With the default Selection tool (A), click in the gray area just above any clip in the Timeline.

Performing Segment Mode Editing

You access Avid's Segment mode by clicking one of the Segment mode buttons or lassoing a clip or clips in the Timeline. New in Avid 5, you can toggle the Smart tool in the Timeline palette to give you FCP-like segment sensitivity once the clip is edited into the

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Timeline. Final Cut Pro does not use Segment mode buttons, nor do you need to lasso clips to initiate segment editing. In FCP, you can perform Avid-style segment editing quite easily using drag-and-drop Timeline editing and modify segment operations with the Option key.

Avid Lift/Overwrite and
Extract/Splice-in buttons

In Segment mode, Avid displays the four-frame display, called the Segment Drag Quads, to show the In and Out points of the clip you're moving and the frames on either side of the clip. FCP displays just the frames on either side of the location to which you are moving. It also displays a ghost, or shadow image, of the clip as you drag in the Timeline, which you'll find very intuitive.

Moving Clips in the Timeline

Moving clips in the Timeline is a simple matter of dragging them to their new locations. Keep in mind that in FCP the default is just like Overwrite Segment mode: If you drag one clip on top of another, the new clip will overwrite the portion of the existing clip when you release the mouse button. Later in this lesson, you'll learn how to drag a clip and create an insert edit.

To move clips in the Timeline:

1 Select a clip or clips that you want to move.

2 With the default Selection tool (A), *do one of the following:*

- Using the pointer, which changes to a move tool when a clip is selected, drag the selected clip(s) to the left or right and release it at a new location.

  As you drag a clip in the Timeline, an information box appears next to the clip with the amount of the move, while the Canvas two-up display shows the frames in the adjacent clips or gap to the left and right of the clip you are moving, just like the outer two of the Avid four-frame display.

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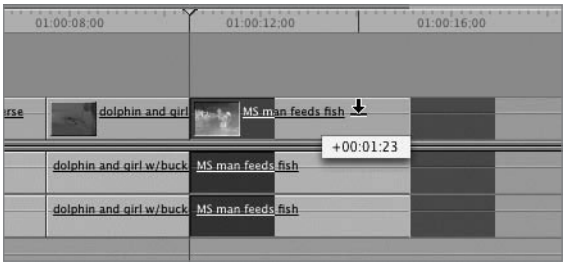
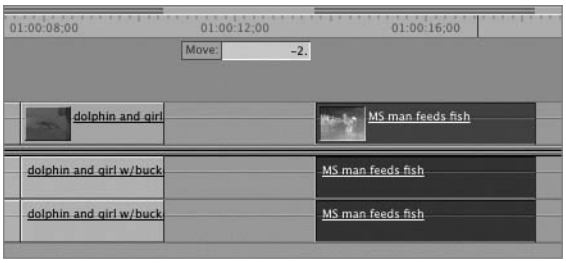


TIP To slow down or fine-tune your move, press Command to "gear down" as you drag the clip.

- To use a time value, type anywhere in the Timeline the amount of time you want to move the selected clip forward in the sequence, and press Return. Use a minus sign to move a clip earlier in the Timeline. Entering a time value, like entering a trim amount, appears in a Move box in the Timeline.

NOTE ▶ If you use this method to move a clip over another clip, you will hear a system beep and, in the Timeline, see a Clip Collision warning.



- Press the Left or Right Bracket key ([or]) to move the clip one frame, or press Shift-[or Shift-] to move the multiframe trim size set in User Preferences.
- Press the Left or Right Angle Bracket key (< or >) to move the clip one frame, or press Shift-< or Shift-> to move the multiframe trim size.

Performing Drag-and-Drop Editing

In Final Cut Pro, drag-and-drop editing offers a unique and fast approach to the editing process. You can drag a clip from the Viewer or from the Browser and drop it directly into the Timeline. As in Avid, if a clip has In and Out points, those marks will determine the clip length. If it doesn't, the entire clip duration will be placed where you release it.

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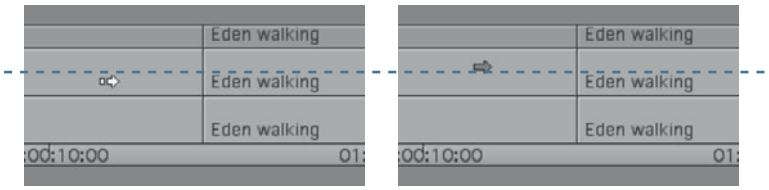
FCP has provided region-sensitive drag-and-drop editing from early on. Avid 5 introduces the same behavior, but in reverse to FCP. To drag and perform an overwrite edit, you position the pointer in the upper half of the track. To splice in, you position the pointer in the lower portion of the track. While Avid has an imaginary drop-line halfway through the track, FCP clearly divides the track: the insert edit area in the upper third, and the overwrite area in the lower two-thirds.



Avid 5 Segment Mode options above and below imaginary line

When you drag a clip into the FCP Timeline from the Viewer (or Browser), you will see one of two arrow icons appear on the pointer, depending on where you position your pointer. Each arrow represents a different type of edit: an overwrite edit or an insert edit. Before you release the mouse button, make sure that you are choosing the type of edit you want by positioning your pointer above or below the overwrite and insert dividing line.

Overwrite and insert dividing line in FCP

To make an overwrite drag-and-drop edit:

1. Drag a clip from the Viewer or Browser and position the tip of the pointer arrow in the overwrite edit area (*beneath* the one-third dividing line on the targeted track).

The arrow points downward like the overwrite icon, and the clip is a dark, solid image.

2. Release this clip as an overwrite edit.

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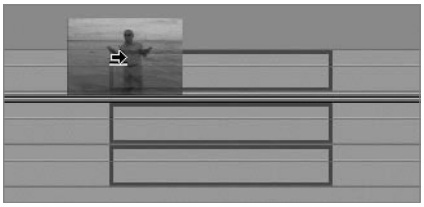
To make an insert drag-and-drop edit:

1 Drag a clip from the Viewer and position the tip of the pointer arrow in the insert edit area (*above* the one-third dividing line on the targeted track).



The arrow icon points sideways like the insert icon, and the clip is represented by an outline of its length with a hollow fill.

2 Release this clip as an insert edit.

NOTE ▶ In both overwrite and insert drag-and-drop editing, you'll see a semi-opaque thumbnail or shadow of your clip until you release the clip.

You can also drag a clip or group of clips from the Browser or an entire bin directly into the Timeline. Clips will be placed in the sequence in the order in which they appear in the bin. FCP will observe any marks, if they exist.

TIP When using the drag-and-drop editing approach, you can drag a clip into an empty area above or below an existing track in the Timeline. The next consecutive track will be added to your Timeline automatically, and the clip will be placed on that track. To constrain the movement of the clip from side to side, hold down the Shift key as you drag vertically.

Copying and Pasting

Avid's Clipboard doesn't exist in the Final Cut Pro interface, but the basic Mac copy and paste functions still apply. FCP uses other Mac functions and keyboard shortcuts as well. In addition to using the keyboard shortcuts listed here, you can Control-click (or right-click) a clip in the Timeline to access the copy and paste functions. In Avid, enabled track buttons dictate what is copied, and paste will echo it without regard to changed track selections. In FCP, the Auto Select controls in the Timeline track area and the playhead position in the Timeline or Canvas dictate where Paste places your copied clips.

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Mac Functions

Function	Shortcut	Description
Copy	Command-C	Copy selected material to a buffer or Clipboard
Cut	Command-X	Like Delete, but cuts selected material and holds it in the buffer or Clipboard, similar to Avid's Lift
Paste	Command-V	Paste Clipboard content to the current play-head location as an overwrite edit
Ripple Cut	Shift-X	Like Avid's Extract, cuts the selected clip and holds it in the buffer or Clipboard, while removing the gap and rippling the following clips
Paste insert	Shift-V	Paste Clipboard content to the current play-head location as an insert edit
Option-drag		Pull a copy of the selected material and leave the original

NOTE ▶ You can press Delete or Ripple Delete to remove a clip from the sequence; however, these Delete options don't put the clip onto the Clipboard like Command-X (Cut) and Shift-X (Ripple Cut) do.

Editing Applications for Copying

FCP lets you copy a clip from one place in the Timeline to another, from one bin to another, or from the Timeline to the Browser to save it with modified levels or effects. You can also copy groups of clips and paste them into another sequence, and copy bins from one project to another. You can even copy transitions, effects, motion effects, mattes, log notes, and so on. Once you copy a clip—for instance, a camera flash—you can paste it repeatedly into the sequence. In audio work, this is useful for quickly repeating a clean room tone clip.

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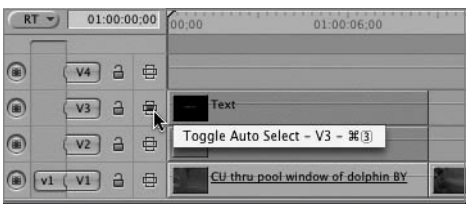
NOTE ▶ In Lesson 9, you will learn how to copy a clip and paste specific effect attributes from that clip to another.

Auto Select Controls

The powerful Auto Select controls in FCP affect many important Timeline operations discussed throughout this book, but they do require a little understanding. Most importantly, the Auto Select controls affect media already in the Timeline, whereas the FCP Source/Destination patching controls route new edits into the Timeline. Where Avid users select track buttons to determine which track will be affected by a command such as copy, they still paste to the same track even if track selectors are changed. FCP users copy clip(s) and toggle Auto Select controls in the Timeline track area to redirect Paste to any other track. For example, if you want to paste a clip at the playhead location but onto a different track, and are working with several video tracks, you identify the track to which you want to paste by deselecting Auto Select for all other tracks, or by *reverse-selecting* the desired track. Photoshop users will understand this behavior immediately from layer visibility toggles.

TIP Rather than turn off each track individually, you can Option-click a track's Auto Select control to select just that track. This reverse selection automatically deselects all other video or audio tracks. You can also use keyboard shortcuts to disable or enable Auto Select controls: toggle all video tracks with Command-0 (zero); toggle all audio tracks with Option-0 (zero); toggle individual video tracks with Command-1 through Command-9 for the track number; toggle individual audio tracks with Option-1 through Option-9.



In this example, the copied clip will be pasted over the V3 Text clip.

TIP If you want to copy one or more clips from a single track and paste them to another location on the same track, you need not use Auto Select control in FCP. As in Avid, simply copy the clip and paste it at the playhead location.

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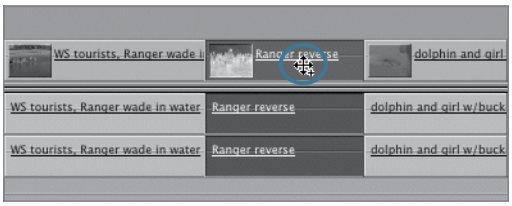
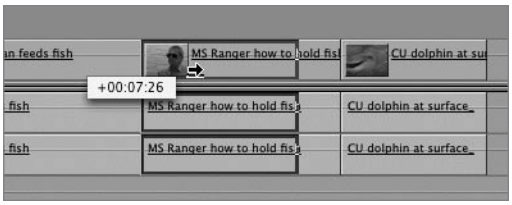
To copy using Option-drag:

1 Select one or more clips, release the mouse button, and then hold down the Option key. This adds a tiny plus sign to the move icon to indicate that you're moving a copy of the selected material.

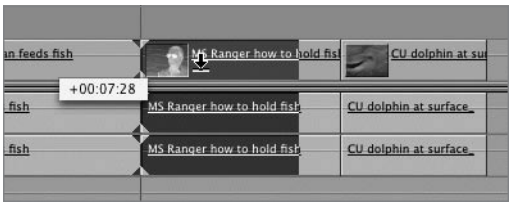

WS tourists, Ranger wade i
dolphin and girl
WS tourists, Ranger wade in water
Ranger reverse
dolphin and girl w/buck
WS tourists, Ranger wade in water
Ranger reverse
dolphin and girl w/buck

2 Move the copy of the clip to the new location, but don't release the mouse button yet.

3 To insert the clip or clips at this location, continue to hold down the Option key and release the mouse button. To overwrite the clips at this location, release the Option key first, which changes the pointer from the right pointer to the down pointer, and then release the mouse button.



Inserting a copy of a clip with the Option key held down



Overwriting with a copy of a clip with the Option key released

NOTE ► As in drag-and-drop editing, the solid clip box represents an overwrite edit, and the hollow clip box represents an insert edit. Notice, too, that the arrow changes from a forward insert arrow with Option held down to a downward overwrite arrow when released.

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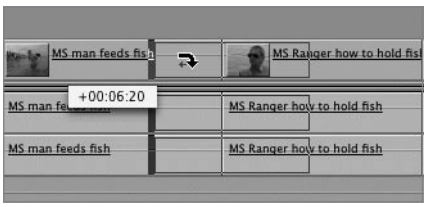
To perform an extract/insert edit:

Extract/inserts are a great way to instantly shuffle a shot in the Timeline, just as you would in Avid's Segment Insert mode.

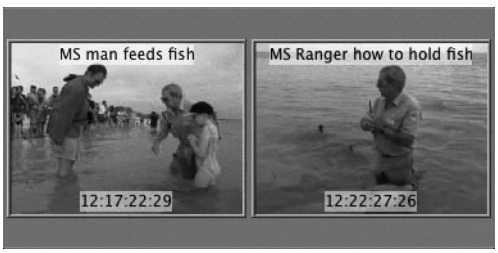
1 Make sure snapping is enabled so you can snap to current edit points and make swapping a clip easier.

2 With the default Selection tool (A), select the clip you want to move.

3 Begin to move the clip. After you have started to move it, hold down the Option key.



A downward-hooked arrow appears, the clip shape becomes hollow, and an information box appears indicating the move amount.



In the Canvas, you see the bordering frames that come before and after the clip or clips you are moving.

4 Release the clip at an edit point (look for the snapping triangles with snapping on) or anywhere in the sequence, and then release the Option key.

This creates an insert edit and closes the gap that was left by the original clip, just like an Avid extract/splice edit.

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To perform a lift/overwrite edit:

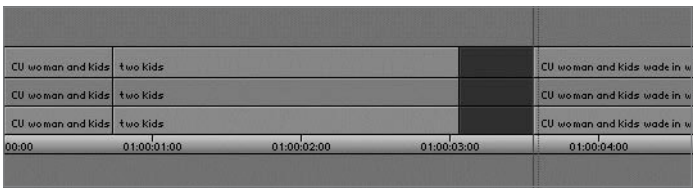
1 With the default Selection tool (A), select the clips you want to move.

2 Drag the clips to wherever you want to place them and release the mouse button. If you are overwriting at an edit point, look for the snapping triangles to appear.

This creates an overwrite edit and leaves a gap at the original location, just like an Avid lift/overwrite edit.

Working with Gaps

While Avid uses the Load Filler command to edit black "spacers" into a sequence, Final Cut Pro uses black slugs. FCP slugs, which are discussed in Lesson 11, are edited just as Avid's filler is. However, as in Avid, in FCP you don't have to edit slug or filler between clips. You can simply leave a space or gap of whatever length you desire, and both systems play through those gaps as though they were black clips. FCP gaps can be selected, deleted, repositioned, and even trimmed, but unlike an Avid filler segment, you cannot apply effects to them.



Avid gap or "black hole"

To find a gap in your sequence:

Do one of the following:

- To move the playhead forward in the Timeline to the next gap, press Shift-G, or choose Mark > Next > Gap.
- To move the playhead backward in the Timeline to the most recent gap, press Option-G, or choose Mark > Previous > Gap.

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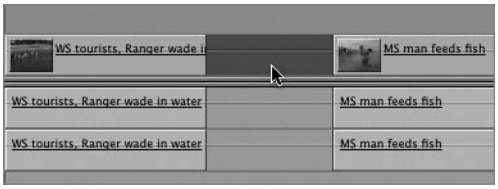
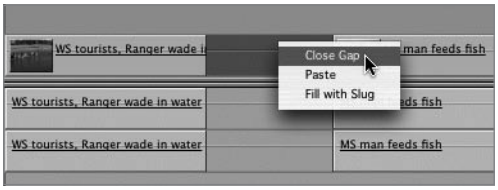
To close or delete a gap:
Do one of the following:

- Select a gap by clicking in the gap area, as you would a clip, and then press Delete. This removes the gap and pulls up the clips that follow in all of the tracks (V1, A1, A2, and so on) by the gap amount.


WS tourists, Ranger wade i
MS man feeds fish
WS tourists, Ranger wade in water
MS man feeds fish
WS tourists, Ranger wade in water
MS man feeds fish

- Park the playhead over a gap and press Control-G, or choose Sequence > Close Gap.
- Control-click in the gap area and choose Close Gap from the shortcut menu.



Deleting gaps across all tracks, as described here, will not throw your clips out of sync, because this procedure pulls all tracks up by the same amount (as long as room is available in the Timeline and tracks are not locked). It will observe overlaps, such as split edits, and will not delete a gap that would throw off an overlap edit.

TIP To delete a gap in only one track, lock the other tracks, then select and delete the gap you want to remove. If the clips in the locked tracks are linked, this will cause them to become out of sync.

Working with Master Clips

Avid's master clips link to their associated media files. This concept of clip linkage is true for Final Cut Pro as well as for all nonlinear editing systems, although some terminology may be different. For example, in FCP, a clip is considered a master clip if it was the first

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use of that clip in the project. An FCP master clip can be duplicated any number of times and used in several different sequences, or bins, within a project. But the clip copies will not be viewed or listed as a master clip. However, if you copy a clip and paste it into a different project, and it is the first use of that clip in that project, it will be a master clip in that project, even though the copy was not a master clip in the previous project.

In FCP, the master clip is the first point of reference, if you will. A copied master clip, within the same project, is considered to be an *affiliate* of the master clip. Property changes you make to the master clip, such as name change or reel number, will be applied to all affiliate clips automatically, as you'd expect in Avid systems. Clips edited into a sequence are referred to as *sequence* clips and are also affiliates of the master clip. It also works in reverse. If you change an affiliate clip, it will change the master clip. This helps to maintain the relationship with the originating clip so that FCP can ensure that all clip references link back to the appropriate media file.

NOTE ▶ In FCP, nothing you do to a master clip will affect the associated media files. You can even delete a master clip, and the media files will remain on the hard drive, as if you had deleted a master clip in Avid and left the Delete Associated Media Files checkbox deselected.

Avid Delete dialog

To identify a master clip:

It's easy to determine whether FCP considers a clip to be a master clip or not.

1 In the Browser, make sure View as List is chosen as the view option.

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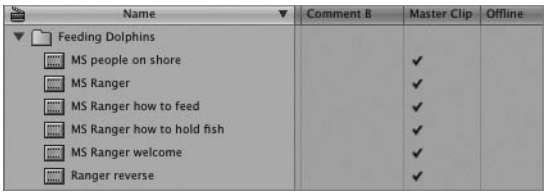
2 Locate the clip you want to view.

3 Drag the scroll bar on the bottom of the Browser window to the far right until you see the Master Clip column. Its default position is between the Comment B and Offline columns.



If a check mark is present in this column on the appropriate clip line, FCP considers this clip to be a master clip.

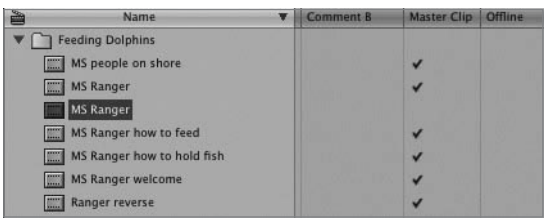
NOTE ▶ Unlike Avid, subclips in FCP are treated as master clips, because they represent the first use of a specific section marked and clipped from its source.

To create a new master clip:

You may want to make changes to the duplicate clip but not affect the original master clip. For these situations, you can change the current status of an affiliate clip to be a master clip, or you can duplicate a master clip to be a new master clip.

1 Select a master clip in the Browser and choose Edit > Duplicate, or press Option-D.

You can also copy and paste the clip, but it will appear on the project tab, not in the same bin as the original master clip.



The duplicate clip will not have a check mark in the Master Clip column, because it is not the first time that clip was used in the project.

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2 Select the newly copied clip and choose Modify > Make Master Clip to make this affiliate clip a master clip.

3 To save the step of duplicating the master clip, you can select the master clip in the Browser, and choose Modify > Duplicate as New Master Clip. You can also choose this option from a shortcut menu by Control-clicking the master clip in the Browser.

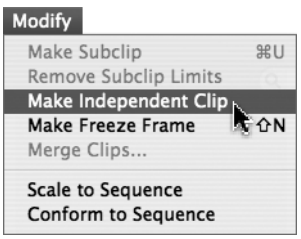
NOTE ▶ Making a subclip or freeze frame, importing a graphic file, or importing an Edit Decision List (EDL) will also create master clips.

To create an independent clip:

When a clip has been edited to the Timeline, that sequence clip becomes an affiliate of the master clip from which it was created. But you can choose to make a sequence clip independent of its own master clip. Then you can make changes to it, such as renaming it, without affecting its affiliated master clip.

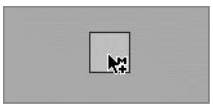
1 In the Timeline, *do one of the following:*

- Select a clip and choose Modify > Make Independent Clip.
- Control-click a clip and choose Make Independent Clip from the shortcut menu.



The new independent clip becomes its own master clip.

2 To change a sequence clip into a master clip in one step, Option-drag the clip from the Timeline into the Browser. Before releasing the mouse button, press Command. When you see the tiny M on the clip icon, indicating master clip, you can release the mouse button.



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NOTE ▶ If you've experienced relinking clips in Avid, you understand the strength of the master clip relationship in FCP: If your clips become offline, you can relink just the master clips in the Browser, and all affiliate clips in all sequences throughout the project will be relinked automatically. If you make a clip independent, it will not automatically relink along with the master clip, but will have to be linked separately.

To reveal a master clip:

At times, you simply want to locate or reveal a master clip in the Browser. In Avid, this is the popular Find Bin function, which is available in FCP. FCP has a robust Find function, which is covered in Lesson 13. To reveal a master clip in the Browser, FCP uses a menu command or shortcut.

1. In the Timeline, park the playhead over the clip whose master you want to reveal in the Browser.

2. Choose View > Reveal Master Clip, or press Shift-F.

   In the Browser, the bin that contains the master clip will open, and the master clip appears highlighted.

   NOTE ▶ FCP reconnects media using the media filename, and not embedded reel and timecode information as Avid does, so it is vital that clips and media files share the same name.

   Two commands can help you to maintain the link to your media files. With a clip selected in the Browser, choose Modify > Rename to access them. One command allows you to rename a project clip to match its originating media file, and the other allows you to change the name of the media file to match the project clip name. You can also Control-click a clip in the Browser and choose Rename from the shortcut menu.

Finding Match Frames

Both Avid and Final Cut Pro allow you to find match frames. In FCP, you can find a match frame in the Viewer, Canvas, or Timeline. The Viewer and Canvas Match Frame command buttons are dedicated, but you can also use a keyboard shortcut (F), add a match frame button to an FCP button bar, or map the command to a specific keyboard location. Although FCP does not have a command called Reverse Match Frame, it does have that functionality.

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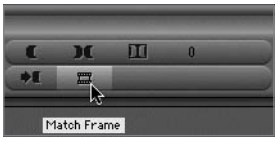


Avid Match Frame button

FCP Canvas Match Frame button

If you initiate a match from the Timeline or Canvas, your source will appear in the Viewer with the marks used in the sequence clip and the playhead parked on the matching frame. If you open a new master clip in the Viewer, you can find a match frame for that clip in the sequence, if it was used, and the match frame will appear in the Canvas, exactly like Reverse Match Frame functions in Avid.

To find a match frame for a sequence clip:

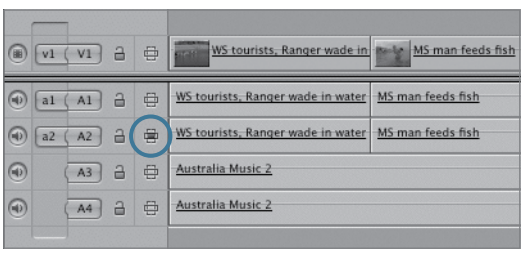
This method is the same as the Avid approach to matching a specific frame in the sequence with its master clip.

1 In the Timeline, park the playhead on the frame you want to match.

2 If several clips are on the tracks at the playhead location, select the clip with the Selection tool, or Option-click the Auto Select control for the track you want to match.

This keeps the one track selected but deselects other tracks of the same type (audio or video). Since video tracks are the priority, if you want to match to an audio track, you will also have to turn off the Auto Select control for the video track or tracks. Remember, pressing Command-0 on a numeric keypad toggles off or on all video tracks; pressing Option-0 toggles all audio tracks.

NOTE ▶ Using Auto Select is somewhat like working with a grid. The playhead identifies the clip stack in the sequence, and the Auto Select controls determine the specific track within that stack.



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3 *Do one of the following:*

- In the Canvas, click the Match Frame button.
- In the Timeline or Canvas, press F.
- Choose View > Match Frame > Master Clip.

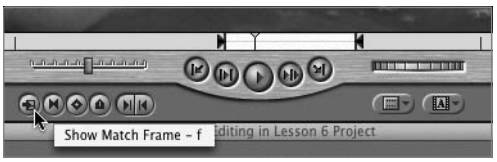
The marked master clip appears in the Viewer with the playhead on the match frame.

To find a match frame to a source clip (Reverse Match Frame):
As with Avid's Reverse Match Frame, in FCP you can look for a specific match frame from a master clip opened in the Viewer to any use of that clip's frame in the sequence. For example, you may want to edit another portion of a master clip but may not be sure if this portion has been used already in the current sequence.

1 In the Viewer, open a clip for which you want to find a match in the current sequence.

2 Park the Viewer playhead over the frame you want to match.

3 Click the Viewer Match Frame button, or press F.



If you select a frame in the Viewer clip that is not in the sequence, you will hear a beep, indicating that no match was found.

To find multiple occurrences of a Viewer frame in the current sequence:
Avid 5 has an enhanced Reverse Match Frame that shows multiple occurrences of a source frame one by one with each click of the Reverse Match button. FCP 7 can detect any multiple occurrences of a chosen Viewer frame by highlighting affiliated clips in your current sequence—and all at once.

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To find all affiliated clips containing the same source frame in the current sequence, *do one of the following:*

- Choose View > Reveal Affiliated Clips in Front Sequence.
- Control-click the desired clip in the Browser or Timeline, and from the shortcut menu, choose Reveal Affiliated Clips in Front Sequence.

To open an unmarked master clip:

As in Avid, you can also match a marked sequence clip to a source clip that does not have any marks—that is, bring a fresh, unmarked master clip into the Viewer and then to the Browser.

1. Position the playhead over a clip in the Timeline.
2. Choose View > Match Frame > Source File, or press Option-Command-F.

   The source file appears in the Viewer without any marks in it.
3. Drag the clip in the Viewer to the Browser; it appears as an unmarked master clip.

Slipping and Sliding Clips

Unlike Avid, Final Cut Pro has dedicated tools for slipping and sliding clips. Rather than lassoing a clip to slip or slide its pink rollers in a modal situation as you would in Avid,

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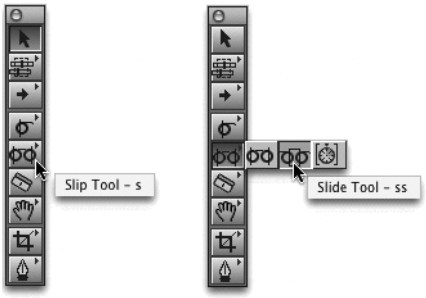
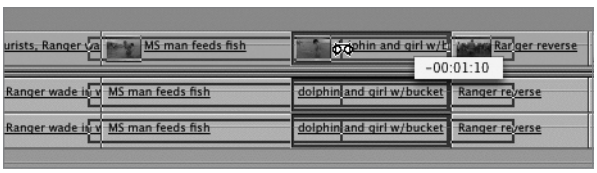
you choose the Slip or Slide editing tool from the FCP Tool palette. As in Avid, the Slip and Slide functions in FCP keep the overall length of the sequence unchanged.



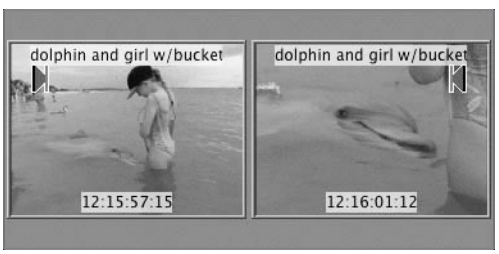
To slip a clip in the Timeline:

1 Choose the Slip tool from the Tool palette, or press S.

2 Drag the clip left or right in the Timeline.



In the Timeline, an information box appears with the duration you are slipping the clip. The hollow box or ghost outline around the clip reflects the total length of the master clip or the available clip handles.



Also, as you drag, the Canvas provides a two-frame display, similar to the Avid Small Trim mode, that reflects the new head and tail frames of the clip.

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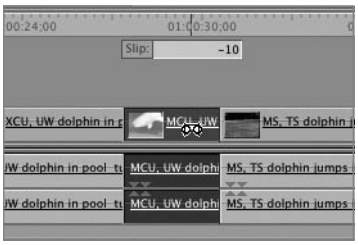
3 To enter a specific slip amount, with the Slip tool chosen, Shift-click the clip to temporarily access the default Selection tool and select the clip. Then type the amount and press Return.



TIP With the clip selected, you can also press the Bracket keys to slip a single frame as in Avid, or press a Shift-Bracket key to slip the multiframe trim amount. However, be aware that FCP trim forward and trim back keys will affect the clip exactly the opposite of what you would expect in Avid. That is, in FCP, slipping using trim forward slips the clip media relative to the sequence, adding the previous source frame at the head and slipping the tail frame into the handle, whereas in Avid the same operation would do exactly the opposite.

To slip a clip in the Viewer:

1 With the default Selection tool (A), double-click a clip in the Timeline.

2 In the Viewer, Shift-drag either edit point.

The In and Out edit points move in tandem. The Viewer displays the new In point, and the Canvas displays the new Out point.

NOTE ▶ You can also use the Slip tool to drag an edit point in the Viewer scrubber bar. With the Slip tool active, it isn't necessary to use the Shift key as you drag.

To slide a clip in the Timeline:

1 Choose the Slide tool from the Tool palette, or press SS.

2 In the Timeline, drag a clip left or right.

An outline appears, indicating the selected clip and the clip on either side of it. The familiar information box displays the drag amount.

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As you drag, the Canvas window reflects the new tail and head frames of the bordering clips.

NOTE ► You can drag the middle clip as far right or left as there is material on the bordering clips. If you don't have enough footage or handles on a border clip to compensate for the slide, the selected middle clip will not move in that direction.

TIP As in Avid, you can select the clip and press a Bracket key to slide one frame or press a Shift-Bracket key to slide the multiframe amount.

Replacing Edits

As in Avid, the Replace Edit function in FCP matches a desired sync point in the Timeline with a corresponding sync point in a source clip and allows you to replace the Timeline clip with regard to that point. The color of the blue FCP icon has followed suit as well. In both cases, if you don't have enough material to cover before and after the sync point, the edit can't be made, and you have to adjust the duration of the clip you want to replace.

Avid Replace Edit function

FCP Replace Edit button

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To replace an edit:

As with many other FCP functions, you have multiple ways to perform the Replace Edit function. It doesn't matter which method you use; each accomplishes the same thing.

1. Position the playhead at the In, Out, or specific sync point within a clip in the Timeline, such as a visual cue or sound effect.

2. Open a replacement source clip into the Viewer.

3. Park the Viewer playhead either on the desired In or Out point, or on the specific sync point to match that of the sequence clip you are replacing.

4. *Do one of the following:*

   - Click the Replace Edit button, located at the lower left of the Canvas, next to the Insert Edit and Overwrite Edit buttons.
   - Press F11.
   - Drag the clip from the Viewer to the Canvas and drop it into the Replace option of the Edit Overlay.

NOTE ► You can also replace a video clip based on an audio cue. To do this, park the playhead on the audio cue in the Timeline. Patch the v1 source control to the target destination track and unpatch the audio source controls so the audio tracks won't be overwritten. Park the playhead on the sync point in the source clip in the Viewer and choose one of the Replace Edit options.

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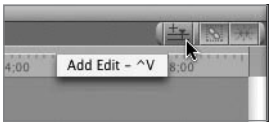
TIP To replace more than one clip in the Timeline with a single source clip, mark In and Out points to define the area in the Timeline you want to replace. Then follow the previous steps to replace the area with the desired source clip.

Adding Edits

Like the Replace Edit function, the Add Edit function in FCP operates the same as the corresponding Avid function. With FCP, in addition to a menu command, there is a special editing tool you can use for this function. You can also map Add Edit to your keyboard or place the Add Edit button in one of the FCP button bars.

Avid Add Edit button



FCP Add Edit in Timeline button bar

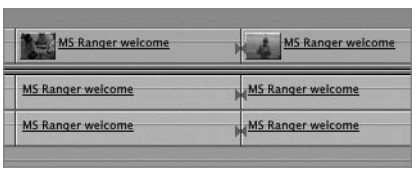
To add an edit:

What both Avid and FCP are really doing through the Add Edit function is not so much adding new clips as dividing existing clips into separate parts. Maybe you want to set a different audio level for a portion of a clip, add an effect to only a portion of a clip, or divide a long narration track into smaller parts.

1 In the Timeline, play the clip you want to divide, or park the playhead over the divide location.

2 Choose Sequence > Add Edit, or press Control-V. You can do this repeatedly as a clip is playing.

Avid through-edit indicators



FCP through-edit indicators

In the Timeline ruler area, red markers appear where you added an edit. Once you stop playing the clip, red through-edit stitches appear (like Avid's equal signs)

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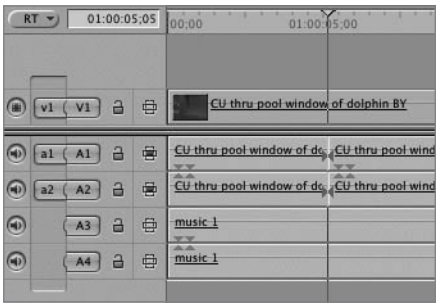
between adjacent clip parts. You can toggle the through-edit markings off and on in the Sequence Settings window (Command-0) on the Timeline Options tab, or in the Timeline Track Height pop-up menu.

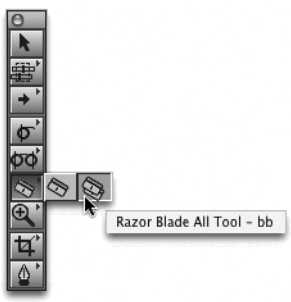
TIP If there are several tracks in the Timeline, Add Edit will cut through all existing tracks. To disable Add Edit for any track, either lock or toggle off Auto Select for tracks you want to exclude.



To use a Razor Blade tool:

An alternative method of adding an edit, or dividing a clip, is to approach the situation as a good film cutter would: with a razor blade cutting through film. One Razor Blade tool is available for cutting through all the unlocked tracks in one clip, and one is available for cutting through all the unlocked tracks in the sequence. The Razor Blade tools are on the Tool palette; you can choose them with shortcut keys, either B for Razor Blade tool or BB for Razor Blade All tool.

1 Choose the Razor Blade tool (B; single blade) to cut through or divide all unlocked tracks of a single clip, or the Razor Blade All tool (BB; double blade) to divide all unlocked tracks of the sequence. The Razor Blade tools ignore Auto Select status on tracks.



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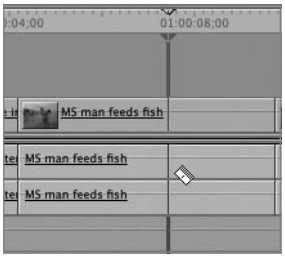
2 Park the playhead at the desired add-edit location. This is not required but can give you a more precise result, if necessary.

3 With snapping on, move the Razor Blade tool into the sequence. Let it snap to the playhead location, and click.



When the Razor Blade snaps to the playhead, the affected tracks have a thin playhead stem, whereas the other tracks show a thicker playhead stem.

NOTE ▶ The Razor Blade tools snap to the playhead location, locators, or edit points in the sequence.

Extending Edits

A feature that is often used in Timeline editing in Avid and Final Cut Pro is the Extend Edit function, which allows you to roll one or more edit points to a desired location with one keystroke or button click. Where Avid marks the location of the extend edit using In and Out points, FCP uses the playhead position, which can be much faster. You can position your playhead either before or after a selected edit point, and as long as there is enough clip material in both the outgoing and incoming clips, an extend edit will instantly roll the edit points to the playhead position. You can apply this technique to both video and audio edit points, or just video or audio edit points to create a split edit or L-cut. As long as the edit point or points are selected ahead of time, you can even play using J-K-L and perform an extend edit on the fly.

To extend an edit:

1 Park the playhead at the location to which you want the clip to extend.

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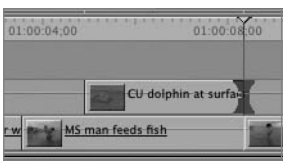
2 Select the edit point on the track or tracks that you want to extend. If you use the V2 track for cutaways, you can easily extend either the In or Out point of the cutaway clips.

You can select an edit point on a clip that is not bordered by other clips, or you can select the edit points between two clips. Extending two adjacent edit points gives the same results as making a dual-roller trim, or trimming with the FCP Roll tool.

NOTE ▶ If your audio and video clip tracks are linked, you may need to toggle off linked selection, or Option-click, to select an edit point on an individual clip track.

3 Press E, or choose Sequence > Extend Edit.



If enough material is available to extend to the playhead location, the edit point or points will move to the playhead. If enough clip material isn't available to extend to that location, nothing will happen. You may need to readjust your playhead location.

TIP You can also extend multiple edit points to the same location—for example to end music tracks or composited clips—at the same time. To select multiple edit points, select the first one, then Command-click additional edit points to add to the selection.

Placing Markers

Avid's *locators* are *markers* in FCP. Like FCP markers, Avid locators label a particular frame in a clip on any track in the Timeline and allow you to store a displayable caption. Final Cut Pro performs this same function, with one primary difference: In addition to placing

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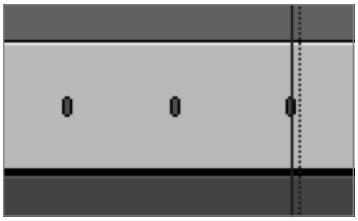
markers on individual clips (for example, to maintain sync between tracks), you can also place markers directly on the Timeline ruler. With one marker in the Timeline ruler that never moves and another one on a clip that follows clip movement, you have the ability to sync a specific location in a clip with a specific location in a sequence. FCP 7 offers new marker functionality. You can choose from eight marker colors, view selected marker colors, export a markers list, and ripple sequence markers with sequence cuts—echoing Avid's default locator behavior.



Avid locators on clips

To create a clip marker in the Viewer:

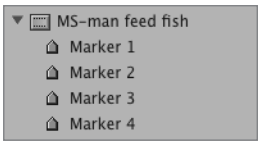
Markers set in the Viewer are attached to the master clip and also appear on that portion of the clip after it's been edited into the Timeline.

1. Open the desired clip into the Viewer and position the playhead where you want a marker to appear.

2. Press M to set a marker at the playhead location. By default, a red marker is applied.

   NOTE ▶ To apply a specific marker color, use Shift-1 through Shift-8.

   In the Browser, a master clip that has markers attached displays a disclosure triangle next to it. When clicked, the markers attached to that master clip are displayed.



Browser clip markers revealed

TIP Later in this lesson you will learn to create subclips from Browser markers.

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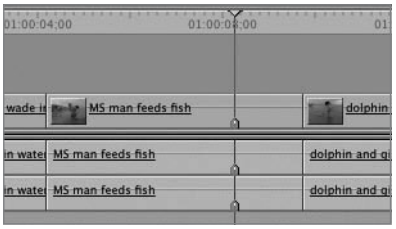
To create a clip marker in the Timeline:

This is similar to Avid's approach of creating locators on clips in the Timeline.

1 Park the playhead at the desired location in a clip in the Timeline.

2 Select the clip and press M (or Shift-1 through 8 for a specific marker color). Be sure the clip is highlighted, or you'll simply create a Timeline marker.

When the clip is deselected, you see a pink marker on the clip at the playhead location. If a clip has linked tracks, a marker appears on all the tracks that are associated with that clip.



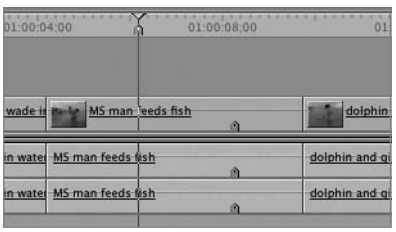
NOTE ▶ You can also add markers on the fly as the highlighted clip is playing, or on source clips in the Viewer before or after it is edited into the sequence.

To create a sequence marker:

Creating sequence markers places the marker in the ruler of the Timeline, as in Avid. These markers attach to the timecode location, not to an individual clip.

1 Park the playhead at the desired location in the Timeline.

2 With no clips selected in the Timeline, press M (or Shift-1 through 8 for a specific marker color).



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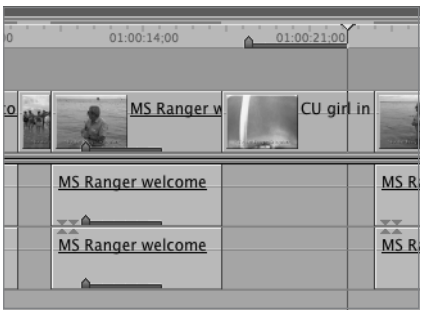
A red marker appears in the Timeline ruler and in the Canvas scrubber bar at the playhead location.

To extend a clip or sequence marker:

Extending clip or sequence marker durations identifies a *marker region* in the baseline of a clip or ruler area of the Timeline with an extension bar—a feature unique to FCP. These markers attach to the timecode location of the sequence or clip. Extensions are handy for marking whole regions of interest as opposed to individual frames.

1. Park the playhead at the desired location in the Timeline or highlighted clip.
2. Press M to begin the region with a marker.
3. *Do one of the following:*
   - Play past a marker and park the playhead where you want to end the extension. Press Option-~ (tilde) to extend to the right of any marker.
   - To shorten the extended marker, reposition the playhead to the left of the extended tail, but after the initial marker. Press Option-~ (tilde).
   - Park on the marker and open the Edit Marker window by pressing M or the Tilde key. In the Duration field, enter a specific length for the marker.



Extended marker region

You can extend any marker for color-coding regions of interest.

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To move to a marker:

In Avid, you can choose to navigate to Timeline locators as an option. A similar capability is hard-wired into the default FCP keyset.

Do one of the following:

- Press Shift-M, or Shift-Down Arrow, to move forward to the next Timeline marker.
- Press Option-M, or Shift-Up Arrow, to move backward to the previous Timeline marker.

  NOTE ► As in Avid, when you park the playhead over a Timeline marker, the marker name (or caption) appears in the Canvas, as long as Show Overlays is selected in the Canvas View pop-up menu.

- To move to clip markers in addition to Timeline markers, press Command-A to select all clips in the Timeline and then apply the preceding shortcuts.
- Control-click the Timeline ruler or a clip in the Timeline, and choose the desired marker number or name from the shortcut menu. Naming markers is covered in the next section.

TIP To align a clip frame with a specific sequence location, create a marker on a clip and one on a sequence. Using the Slip or Slide tool, drag and snap the clip marker to the sequence marker.

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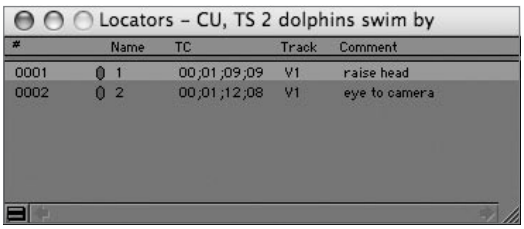
To delete markers:

Do one of the following:

- To delete a single Timeline marker, move the playhead to the marker and press Command-~ (tilde).
- To remove a single marker placed on a clip, select the clip first, move the playhead to the marker, and press Command-~.
- To delete all markers in the Timeline ruler area, press Control-~.
- To delete all markers in a clip, move the playhead over the clip in the Timeline and select it, or open it in the Viewer, and press Control-~.

Editing Markers

Avid has a Locator window in which you can view a list of clip locators and add locator names. In Final Cut Pro, you name your markers in an Edit Marker window. With FCP markers, you can also create marker durations and convert markers to subclips. You can even use markers as a reference for DVD chapters and DVD compression change points, and to add scoring markers to use in the Apple software, Soundtrack Pro. The menu options for markers appear on the Mark menu.



Avid Locator window

To access the Edit Marker window:

You can access the Edit Marker window from the Viewer, Canvas, Timeline, and even the Browser window, although that approach is a little different than the others.

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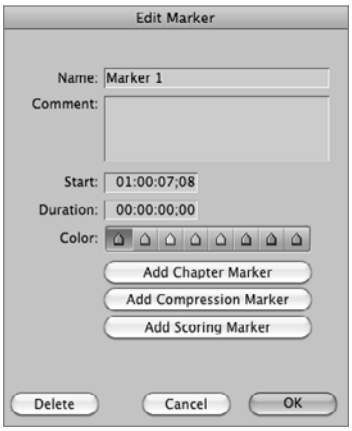
1 In the Viewer, Canvas, or Timeline ruler, park the playhead on a marker, and press M. To edit a clip marker in the Timeline, first select the clip and then position the playhead on the clip marker.



An Edit Marker window appears with the current default name highlighted. In this window, you can name a marker, add comments, choose a marker color, give the marker a specific timecode start point, and specify a marker duration. You can also add DVD and Soundtrack Pro markers, and delete a marker.

2 Enter a name for the marker and click a marker color if you want a color other than the default red.

Choosing a specific marker color for certain purposes can be an excellent organizational tool. For example, you can choose one color for audio notes, another for color correcting, another for director notes, one for graphics or effects needed, and so on. Throughout FCP 7, colored markers are used for this purpose; for example, orange markers are used to identify audio peaks when that function is accessed.

TIP You can choose to hide specific marker colors for all sequences by choosing Edit > Project Properties. In the Marker Visibility section, choose the color of the markers you do not want to appear. Toggle on that color's visibility at any time.

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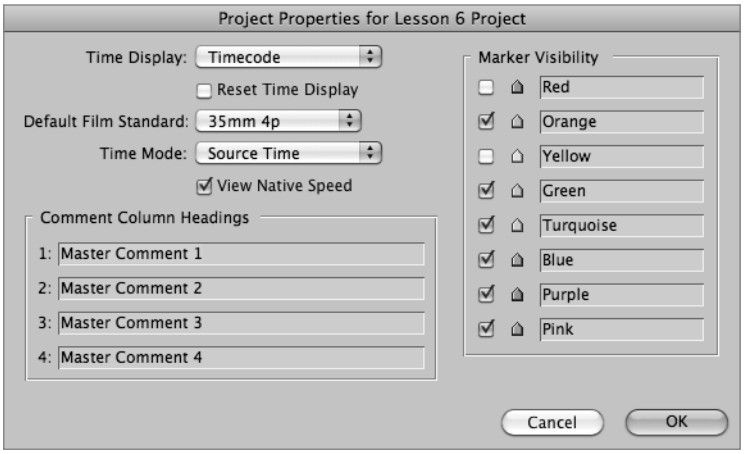

3 Add any comments, durations, or additional markers for DVD or Soundtrack Pro, and click OK.

4 To edit a different marker, return the playhead to that marker, press M and make changes in the Edit Marker window. To edit the marker that appears directly to the left of the playhead location, press Command-Option M.

5 To add a marker on the fly and open the Edit Marker window without stopping playback, press Shift-Option-M. Press Shift-Option-1 through 8 to add a specific marker color and also open the Edit Marker window.

TIP To start and stop sequence playback while the Edit Marker window is open, press Control-Spacebar.

6 To open the Edit Marker window for a clip marker in the Browser, Control-click the marker and from the shortcut menu, choose Edit.

To create subclips from markers:

When markers have been placed on a source clip directly in the Viewer, or on a sequence clip that has been dragged into the Browser, you can view the markers by clicking that

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clip's disclosure triangle. There you can rename the markers, or double-click one to open it in the Viewer. You can use markers set in clips as you would subclips to open a portion of a clip in the Viewer. Or you can use them to create separate subclips in the Browser. The subclip is created from the selected marker to the next marker, or to the end of the clip if there are no additional markers.

1 Set one or more markers in a clip in the Viewer. If markers were added to a clip in the Timeline, you can drag that sequence clip from the Timeline back into the Browser.

2 Click the clip's disclosure triangle to view the markers.

3 Select the marker from which you want to start the subclip.

4 Choose Modify > Make Subclip, or press Command-U.

In this situation, the subclip is named after the marker and not the clip.

NOTE ▶ You can also create a subclip from the exact duration of an extended marker region using the same command.

Ganging Clips

Avid Media Composer has the capability to gang together a source clip with the sequence in the Record monitor. In Final Cut Pro, you have two ways to gang the Viewer and Canvas material to play together. FCP refers to these gang modes as the playhead sync modes. Each playhead sync ganging mode syncs the playheads between the Viewer and Canvas/Timeline, but each has a different purpose.

Avid's Gang button

The Playhead Sync pop-up menu in the Viewer

The default setting for playhead sync is the off position. Notice that the icon in the pop-up menu appears as two tiny playheads next to each other with an X in between. This is the off position.

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To gang Viewer and Canvas material:

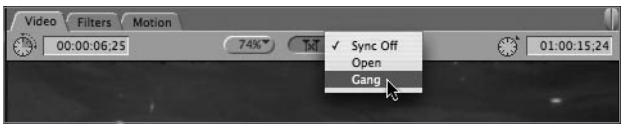
The mode similar to Avid's ganging function is the Gang mode. This will lock the source in the Viewer with the sequence in the Timeline and Canvas at their respective playhead positions. You can initiate this mode from either the Viewer or the Canvas.

1 Load a source clip in the Viewer and park the playhead at the sync point.

TIP You can also open a sequence in the Viewer and gang that sequence to the current sequence in the Timeline.

2 In the Timeline or Canvas, park the playhead at the desired sync point.

3 In the Canvas or Viewer, click the Playhead Sync pop-up menu and choose Gang to lock the playheads together in this location.



4 Drag the playhead in the Viewer, Canvas, or Timeline to see the material scrub together in sync.

NOTE ▶ In the playhead sync modes, you can press the Left Arrow and Right Arrow keys to move the playhead one frame at a time; press Shift-Left or Right Arrow to move one second.

The Open Playback Sync Mode

There is another playhead sync mode: Open. The Open mode is helpful if you have to make changes to one clip after another in the sequence. For example, prior to outputting, you may want to make color correction changes. When you choose the Open mode from the playhead sync pop-up menu and drag the playhead through the sequence, whatever clip the playhead is over in the Timeline or Canvas opens automatically in the Viewer. You can make adjustments to that clip in the Viewer, and then move to the next clip, which opens automatically in the Viewer, and make changes to it, and so on throughout the sequence.

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Sequence clip opened in Viewer using the Open sync mode

NOTE ▶ The Open sync mode is also used in multicam editing so that all the multi-camera sources can be displayed in the Viewer as you edit. See Lesson 11 for more on multicam editing.

What You've Learned

- In Final Cut Pro, you can select and reposition clips in the Timeline without entering a different editing mode.
- In the Timeline, clicking the body of a clip (not the edit points) selects the entire clip.
- You can select a contiguous group of clips by clicking the first clip and Shift-clicking the last clip, or by dragging a marquee around the group.
- You can select noncontiguous clips by clicking the first clip and Command-clicking additional clips.
- Track selection tools enable you to select all clips forward or backward, on one or more tracks, or from the Timeline point where you click; the Select All Tracks tools enable you to select all clips on all tracks forward or backward.
- You deselect a clip or clips by clicking in the gray area above any clip in the Timeline or by pressing Command-Shift-A.
- You can reposition a clip by dragging a selected clip(s) to a new position in the Timeline, typing a numerical value to move a clip a specific amount of time or frames, or pressing Bracket key shortcuts (< or > and [or]) to move one frame or the default trim amount set in User Preferences.

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- FCP allows overwrite and insert drag-and-drop editing from the Browser or the Viewer directly to the Timeline.
- FCP uses Mac cut, copy, and paste commands to cut, copy, and paste clips; but it does not have Avid-like Clipboard tools or icons.
- You can copy clips from one sequence to another, or copy clips and bins from one project to another.
- You can use the track Auto Select buttons to target copy and paste operations from and to specific tracks.
- Option-dragging a clip(s) enables you to drag a copy to a new location as an overwrite edit (release the Option key before releasing the mouse button) or as an insert edit (release the mouse button before releasing the Option key).
- Avid's Segment mode displays Segment Drag Quads, showing a clip's In and Out points and frames on either side of the clip. FCP displays just the frames on either side of the location to which you are moving.
- To perform the equivalent of an Avid Extract/Splice edit, drag a selected Timeline clip, hold down the Option key just after starting to drag, and release the clip at the desired location before releasing the Option key.
- To perform the equivalent of an Avid lift/overwrite edit, drag a sequence clip(s) to a new location and release it.
- You can use menu options or shortcuts to move forward and backward to gaps, which FCP plays through as black video and no audio.
- You can close a gap by selecting it and pressing the Delete key, following a menu path, choosing from a shortcut menu, or pressing Control-G.
- In FCP, a clip is considered a master clip if it was the first use of that clip in the project.
- In a given project, any copy of a master clip is dubbed an affiliate, and any changes to the logging information of the master will apply to the affiliate. Likewise, changes to an affiliate will apply to the master.
- Clips edited to the Timeline are known as sequence clips and are also affiliates.
- You can turn an affiliate clip into a master by selecting it and choosing Modify > Make Master Clip, or by choosing Modify > Duplicate as New Master Clip.
- To make a sequence clip independent of its master clip, select it in the Timeline and choose Modify > Make Independent Clip.
- To reveal a master clip in the Browser, position the playhead over the affiliate in the sequence and choose View > Reveal Master Clip.

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- You can find a match frame in the Viewer, Canvas, or Timeline via the dedicated Match Frame button or keyboard shortcut F.
- You can also use a match frame function to match back to an unmarked copy of the original source clip.
- You can use match functions to reveal affiliated clips with used frames in the Timeline.
- FCP has dedicated tools to make Slip and Slide edits.
- The replace edit functions in FCP are as in Avid, matching a Timeline sync point with a corresponding sync point in the source clip.
- The add edit functions in FCP as in Avid. You can also use Razor Blade editing tools as well as a mappable Add Edit button.
- The Razor Blade tool divides all unlocked tracks of a single clip; the Razor Blade All tool divides all unlocked tracks of the sequence.
- The extend edit functions in FCP similar to Avid, but extends a clip's In or Out point to the location of the playhead. You can also apply it to two adjacent edit points, creating a roll type of adjustment, or to multiple edit points to make a stack of clips even.
- In FCP, you can place markers (Avid's locators) on a clip in the Viewer, a selected clip in the Timeline, as well as in the Timeline ruler to specify a location in the sequence.
- Delete markers by choosing Mark > Markers > Delete, or by pressing a keyboard shortcut.
- In FCP, you name markers in the Edit Marker window, where you can also create marker durations, choose a marker color, set DVD compression and chapter markers, and set scoring markers to be used in Apple Soundtrack.
- Markers created on a source clip in the Viewer will show up in the Browser attached to the clip. You can rename clip markers in the Browser.
- You can open the Edit Marker window for a marker in any FCP window.
- You can add a marker and open the Edit Marker window without stopping playback by pressing Shift-Option-M, or add a specific marker color by pressing Shift-Option-1 through 8.
- You can create subclips from multiple markers in a Browser clip by selecting a marker and choosing Modify > Make Subclip.
- You can gang source material between the Viewer and Canvas, or cause sequence clips to open in the Viewer as you play the sequence.

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Keyboard Shortcuts

Command-A	Select all clips in the Timeline
Command-Shift-A	Deselect any selected item
[(Left Bracket)	Move a selected clip one frame backward
] (Right Bracket)	Move a selected clip one frame forward
Shift-[	Move a selected clip the default trim amount set in User Preferences
Shift-]	Move a selected clip the default trim amount set in User Preferences
< (Left Angle Bracket)	Move a selected clip one frame backward
> (Right Angle Bracket)	Move a selected clip one frame forward
Shift-<	Move a selected clip the default trim amount set in User Preferences
Shift->	Move a selected clip the default trim amount set in User Preferences
Command-C	Copy selected material to a buffer or Clipboard
Command-X	Cut selected material and hold it in the buffer or Clipboard
Command-V	Paste Clipboard content at the current playhead location and overwrite whatever is there
Shift-X	Ripple Cut extracts selected material and holds it in the buffer or Clipboard
Shift-V	Insert Clipboard content at the current playhead location and push ahead whatever is there
Option-drag	Pull a copy from the selected material and leave the original
Drag-Option	Swap edit function with curved arrow cursor, a form of Avid's Extract/Splice edit
Shift-G	Move to the next gap
Option-G	Move to the previous gap

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Keyboard Shortcuts

Control-G	Close gap where the playhead sits
Option-D	Duplicate a clip
Shift-F	Reveal a master clip in the Browser
F	Find a match frame from sequence in Viewer, or from Viewer in sequence (reverse Match Frame)
Command-Option-F	Match a sequence frame to a frame in the source file
S	Choose the Slip tool
SS	Choose the Slide tool
F11	Perform a replace edit
Control-V	Create an add edit
B	Choose the Razor Blade tool
BB	Chose the Razor Blade All tool
E	Create an extend edit
M	Place a marker on a clip at the playhead location
M	When playhead is over a marker, opens the Edit Marker window
Shift-M	Move forward to the next Timeline marker
Option-M	Move backward to the previous Timeline marker
Shift-Down Arrow	Move forward to the next Timeline marker
Shift-Up Arrow	Move backward to the previous Timeline marker
Command-~	Delete a single Timeline marker at the playhead position or a single marker on a selected clip at the playhead position
Control-~	Delete all Timeline markers or all markers in a selected clip when the playhead is over that clip
Shift-1 through 8	Set specific marker color at playhead location

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Keyboard Shortcuts

Shift-Option-M	Set marker on the fly and opens Edit Marker window without stopping playback
Shift-Option-1 through 8	Set specific marker color and open Edit Marker window without stopping playback
Command-Option-M	Open the Edit Marker window for the marker to the left of the playhead
Control-Spacebar	Start and stop sequence playback while Edit Marker window is open
Command-U	Make a subclip of the selected marker in the Browser

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7

Goals

Organize multicam workflow

Sync multiple cameras by In points, Out points, and timecode

Create and view multiclips

Modify multiclips in the Viewer

Edit multiclips in the Timeline

Cut and switch multiclips

Switch angles with effects

Collapse and uncollapse multiclips

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Lesson 7

Multicam Editing

A wide variety of productions, including music videos, reality shows, talk shows, and scripted dramatic series, use more than one camera to simultaneously record the same material from multiple angles. Multicamera, or multicam, editing allows editors in a postproduction environment to employ the same kind of on-the-fly cutting technique that switchers in a television studio use to cut live from one camera angle to another.

Both Avid and Final Cut Pro approach multicam editing in the same way, by allowing you to group different video clips together into a single clip, either by using sync points or by using timecode common to all clips. What Avid calls group clips Final Cut Pro calls multiclips, but, as you will see, the differences are more or less limited to terminology and not technique. If you are already familiar with multicamera editing with Avid, you will very quickly find yourself at home with multicam editing in Final Cut Pro. If you are new to multicam editing, the Final Cut Pro tool set, which includes custom keyboard layouts and button bars, is designed to be intuitive and easy to learn.

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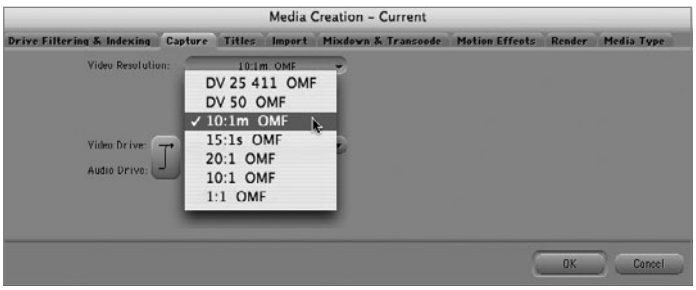
Organizing a Multiclip Editing Workflow

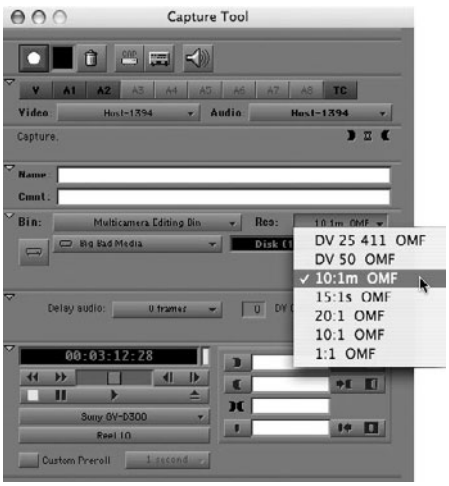
Before capturing video, you should give careful consideration to choosing an editing format that will optimize the workflow for multicam editing. Avid offers several "m resolutions" with a smaller frame size and data rate designed to optimize playback of multiple real-time streams in Quad Split or Nine Split view. Final Cut Pro does not have explicit resolutions for multiclips, but it stands to reason that choosing a codec with a lower data rate, such as DV or one of the Apple ProRes 422 codecs, such as ProRes LT or Proxy, will provide better multicam performance than will uncompressed SD or HD. Like Avid, the Final Cut Pro open format Timeline allows you to add clips of any format to the same sequence without losing real-time playback.

Choosing Capture and Sequence Settings

In Avid, you can choose a capture resolution either in Media Creation settings or directly in the Capture tool.



Avid's Media Creation capture options



Avid's Capture Tool capture options

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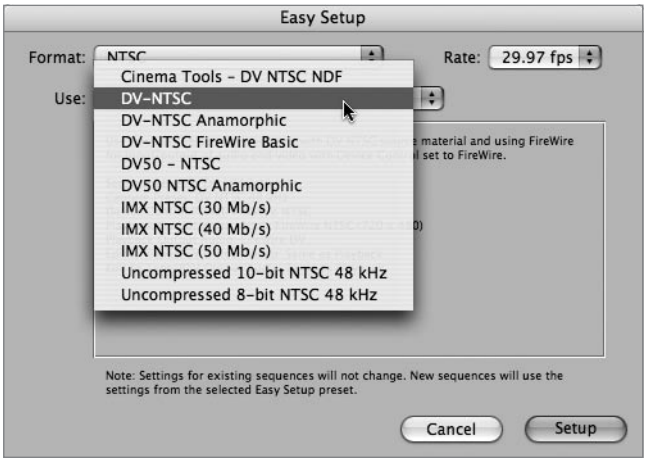
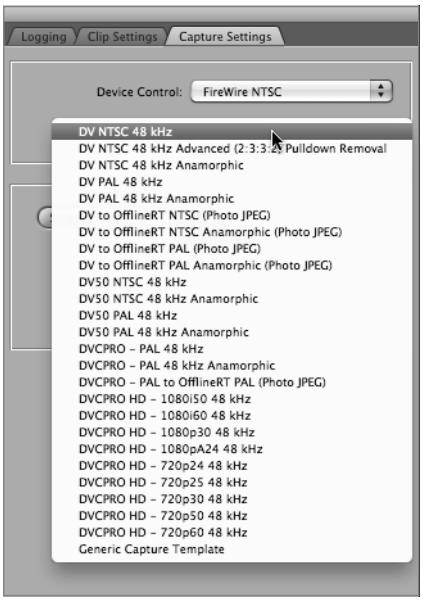
In Final Cut Pro, you have the same two options. You can either choose an Easy Setup prior to capture, or choose a capture preset from the Capture Settings tab in the Log and Capture window.



The FCP Easy Setup options


Logging
Clip Settings
Capture Settings
Device Control:
FireWire NTSC
DV NTSC 48 kHz
DV NTSC 48 kHz Advanced (2:3:3:2) Pulldown Removal
DV NTSC 48 kHz Anamorphic
DV PAL 48 kHz
DV PAL 48 kHz Anamorphic
DV to OfflineRT NTSC (Photo JPEG)
DV to OfflineRT NTSC Anamorphic (Photo JPEG)
DV to OfflineRT PAL (Photo JPEG)
DV to OfflineRT PAL Anamorphic (Photo JPEG)
DV50 NTSC 48 kHz
DV50 NTSC 48 kHz Anamorphic
DV50 PAL 48 kHz
DV50 PAL 48 kHz Anamorphic
DVCPRO - PAL 48 kHz
DVCPRO - PAL 48 kHz Anamorphic
DVCPRO - PAL to OfflineRT PAL (Photo JPEG)
DVCPRO HD - 1080i50 48 kHz
DVCPRO HD - 1080i60 48 kHz
DVCPRO HD - 1080p30 48 kHz
DVCPRO HD - 1080pA24 48 kHz
DVCPRO HD - 720p24 48 kHz
DVCPRO HD - 720p25 48 kHz
DVCPRO HD - 720p30 48 kHz
DVCPRO HD - 720p50 48 kHz
DVCPRO HD - 720p60 48 kHz
Generic Capture Template

The FCP capture options in the Log and Capture window

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TIP The advantage of choosing an Easy Setup is that any new sequences you create will automatically match the settings of your captured clips. However, as of FCP 6, the Auto Conform Sequence feature in User Preferences > Editing can automatically change sequence settings to match those of the first clip you add to it.

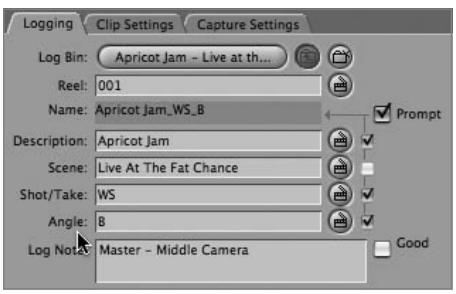
Logging and Capturing Multiclip Source Media

In most professional multicam shoots, letters or numbers are assigned to each camera. Final Cut Pro has an Angle field in the Log and Capture window where you can add this information, and after capture you can sort the clips in the Angle column in the Browser. When you group clips into a multiclip, they are arranged in the split view in the order in which they are sorted.

To assign an angle to a clip:

Do one of the following:

- Enter a letter or a number in the Angle field of the Log and Capture window.
- In the Browser, enter a letter or a number in the field for a captured clip in the Angle column.



NOTE ▸ If you do not assign Angle numbers or letters to clips prior to making a multiclip, Final Cut Pro uses the names of the clips to determine the sorting of angles in the multiclip.

Creating Multiclips

Once you've captured the different camera angles, you can select and group them just as you would in Avid. The Final Cut Pro command for grouping these clips is Make

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Multiclip instead of Avid's Group Clips. As in Avid, you can synchronize clips using one of three methods: by source (or auxiliary) timecode, by In points, or by Out points. The last two options allow you to sync material that was not shot concurrently or has no timecode.

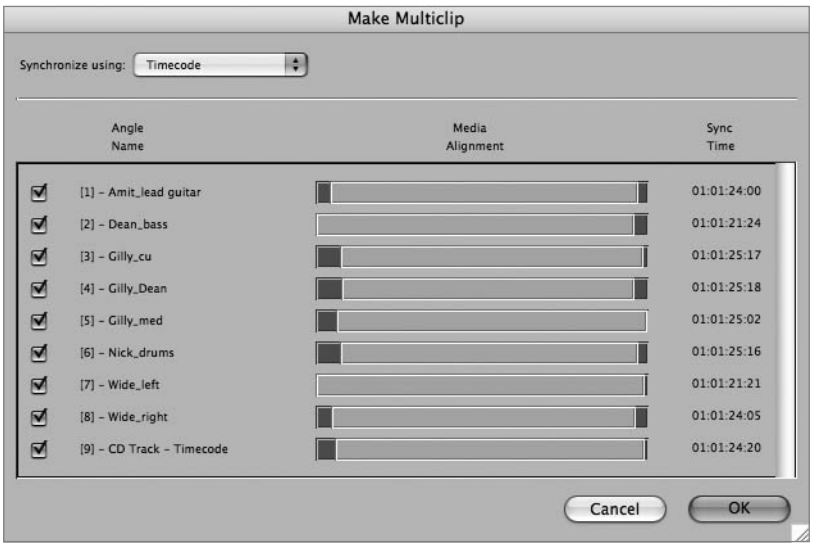
To group clips into a multiclip:

1 In the Browser, click the Angle column header to sort by angle letter or number.

2 Select the clips you wish to group.

3 *Do one of the following:*

- Choose Modify > Make Multiclip.
- Control-click (or right-click) any of the selected clips, and choose Make Multiclip from the shortcut menu.



The Make Multiclip window opens, displaying the clips sorted in the order of their angle numbers, or sorted alphabetically by clip name. When a sync option is selected, such as Timecode, you see how the clips will be aligned in the Media Alignment area. The solid blue bars represent the clip content of each angle in the final multiclip duration, and the gray portions of the bars indicate areas where there will be no clip content for a particular angle.

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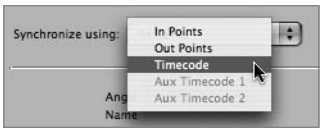
4 From the "Synchronize using" pop-up menu, choose the sync method: In Points, Out Points, or Timecode.



NOTE ▶ If you decide you want to leave one of the angles out of the multiclip, click the checkbox next to that clip to deselect it. You can also add angles after the multiclip is created, which is explained later in this lesson.

5 Click OK.

In the Browser, a multiclip icon appears in the bin. The name of the multiclip is italicized and appears in the following format: *Angle Name* [*Angle Number*]-*Multiclip Name*.

NOTE ▶ The number following the word *Multiclip*, as in Avid, indicates the number of multiclips created in the current project and the order in which they are created. You can change the name of the multiclip just as you can any other clip, but the clip name and number of the active angle will always be the prefix of the multiclip name.

Viewing and Modifying Multiclips

After you have created a multiclip and opened it in the Viewer, you can view and modify it in various ways. In most respects, whatever you can do with group clips in Avid's Source monitor you can do with multiclips in the Viewer, but Final Cut Pro offers additional options not found in Avid.

Viewing Multiclips in the Viewer

Both Final Cut Pro and Avid allow you to view multiclips in the Viewer (Source monitor) using a multi-split view. In Avid, you can group up to 18 angles into a group clip, choosing

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between Quad Split and Nine Split view using interface buttons. In Final Cut Pro, you can group up to 128 angles into a single multiclip and choose from four real-time views—1-up, 4-up, 9-up, and 16-up—using the View pop-up menu in the Viewer.

Avid's Split view and Swap Cam Bank buttons

The FCP View pop-up menu in the Viewer and the Canvas

NOTE ► Loading a multiclip in the Viewer automatically adds options to the Playhead Sync and View pop-up menus in the Viewer. If you do not first load a multiclip, these options will not appear.

To change the number of multiclip angles displayed in the Viewer:
Do one of the following:

- Choose View > Multiclip Layout, and choose one of the options.
- In the Viewer, click the View pop-up and choose a view option from the bottom of the menu.

If you have more angles than the view allows, arrows will appear in the upper-right and lower-right corners of the Viewer that allow you to scroll down or up one row at a time to view the other angles.

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NOTE ▶ A green arrow indicates that the active angle is in a hidden row in the direction of the arrow.

In Avid you can display the clip name for an angle in the Quad or Nine Split view only while holding down the Control key, but in Final Cut Pro you can toggle on overlays that continuously display not only the clip name but also the angle number and source timecode for each angle.

To turn on multiclip overlays:
Do one of the following:

- Choose View > Show Multiclip Overlays.
- In the Viewer, click the View pop-up menu and choose Show Multiclip Overlays.

NOTE ▶ The multiclip overlays will stay on until you toggle them off again. Like any overlay, they will not appear during playback, but only during scrubbing or when playback is paused. Title Safe and Timecode overlays are not viewable when a multiclip is loaded into the Viewer.

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Modifying Multiclips in the Viewer

You can change the arrangement of clips in the split view, add or delete angles, or even slip the media of an angle to resynchronize it with the other angles. In both Avid and Final Cut Pro, you hold down a modifier key while using your mouse to rearrange the order of angles in a split view, but where Avid uses a shortcut menu, FCP allows you to simply drag and drop an angle to another position.

To move an angle to a different position in the multiclip view:

- Command-click the angle you want to move, drag it over an existing angle, and release the mouse button.

  The angle drops into its new position, and all other angles shift and renumber accordingly.

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To delete an angle from a multiclip:

- Command-click the angle you want to remove, drag it out of the Viewer, and release the mouse button.

  The angle will disappear in a puff of smoke. All other angles will shift to fill in the empty space and renumber themselves accordingly.

  TIP Make sure to hold down the Command key before you click the clip you want to delete, or you will accidentally select the clip as the active angle. You cannot delete the active angle from the multiclip.

To add a new angle to a multiclip:

You can also add new angles to a multiclip after it has been created. When you drag one or more new clips into a multiclip in the Viewer, an overlay appears, offering three options:

- Insert New Angle—Adds the new angle to the multiclip at the position where you drop it, causing other angles to shift to make room for it and renumber accordingly.
- Insert New Angle Affiliates—Same as Insert New Angle, but inserts the new angle into any affiliate multiclips already cut into a sequence.
- Overwrite Angle—Replaces the angle at the position where you drop the new angle. Other angles do not shift or renumber.

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1 Drag the clip you want to add into the multiclip in the Viewer, but *don't release the mouse button.*

2 When the overlay appears, position your pointer (and the thumbnail of the clip you want to add) over the option you want until the overlay lights up.

NOTE ► You will not see the Overwrite Angle option in the overlay if you try to drop a clip on the active angle, as it cannot be replaced.

3 Release the mouse button to add the new angle to the multiclip.

To resynchronize an angle:

If an angle is out of sync with others in the multiclip, you can resynchronize it to the multiclip using a technique similar to slipping.

► Shift-Control-click an angle, and drag left or right to slip the source media forward or backward.

The multiclip overlays display the source timecode, while a yellow tooltip displays the offset as you scrub. You can also compare the video in this angle with video in other angles that contain the same subject matter, and resync to those images.

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Editing with Multiclips

The process of editing multicam in Final Cut Pro is very similar to Avid's process, but as usual, whereas Avid is modal, Final Cut Pro simply gives you tools for switching or cutting between different angles, either live (on the fly) or while playback is paused. For example, you can load a preset group of multiclip buttons that are distributed to appropriate windows, or load a preset keyboard layout that gives you additional options for switching and cutting angles. In addition, you can also click an angle in the Viewer to cut or switch.

To load the multiclip button bars and keyboard layout:

1 Choose Tools > Button Bars > Multiclip.

NOTE ▶ Before you load any preset button bar, save the layout of your current button bars, since they will be replaced by the one you load.

2 Choose Tools > Keyboard Layout > Multi-camera Editing.

Later in this lesson, you will learn what specific options the buttons and keyboard layout offer for multicam editing. While these options are helpful for many workflows, they are not required for performing multicam editing in FCP.

To begin multiclip editing:

Once your button bars and keyboard layout are loaded, all you need to do to begin multiclip editing is cut the multiclip into a sequence.

1 To edit a multiclip into a sequence, *do one of the following:*

- ▶ Drag the multiclip icon from the Browser to the Timeline.
- ▶ Option-drag the multiclip from the Viewer into the Canvas and onto the Overwrite option of the Edit Overlay.

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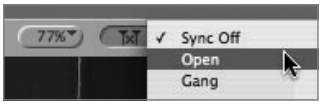
- Option-drag the multiclip from the Viewer directly into the Timeline.
- Click the Overwrite button.
- Press F10.

TIP Because clicking a multiclip in the Viewer selects the active angle, you must hold down the Option key to drag the multiclip thumbnail to another window.

2 In the Canvas or Viewer, from the Playhead Sync pop-up menu, choose Open.



Choosing Open is exactly like choosing Multicam mode in Avid. The multiclip in the Timeline is loaded into the Viewer, with the Viewer playhead gang synced to the playhead in the Canvas and Timeline.

Switching and Cutting Multiclips

In Final Cut Pro, as in Avid, you have two ways to change the active angle of a multiclip: by switching or by cutting. Unlike Avid, the difference between cutting and switching cannot be dictated only by holding down a modifier key, but also by whether or not the multiclip is paused or in motion. Final Cut Pro includes explicit commands for cutting and switching.

To switch from one angle to another:

Do one of the following:

- With the multiclip paused, click a new angle in the Viewer.
- With the Multiclip button bar loaded, click one of the Switch buttons in the Timeline button bar.

- With the Multi-camera Editing layout loaded, press the key on your numeric keypad that corresponds to the number of the angle you want to switch to.

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Any one of these options will switch the angle of the multiclip in the Timeline without adding an edit point. If edit points are located to the left or right of your playhead, only the segment of the multiclip between edit points is switched.

To cut from one angle to another:
Do one of the following:

- With the Multi-camera Editing layout loaded, hold down the Command key and press the key on your numeric keypad that corresponds to the number of the angle you want to switch to.
- With the Multicam button bar loaded, click a Cut Video to Angle (or Cut Audio to Angle) button in the Timeline button bar.

The cut buttons have a razor blade icon. When you choose a cut function, an edit is added at the playhead position, and the multiclip following the edit is switched to the chosen angle. If edit points are located to the right, only the segment of the multiclip between edit points is switched.

TIP The default Multiclip button bar displays buttons for only the first four angles. You can add buttons from the Button List for up to 16 additional angles. To open the Button List window, choose Tools > Button List.

To cut multiclips live (on the fly):
Cutting on the fly is almost exactly the same in Final Cut Pro as it is in Avid.

1. Make sure the Canvas or Timeline is the active window and that the multiclip is not selected in the Timeline.
2. Play the sequence.

   With the playhead sync set to Open, the sequence will play simultaneously in the Viewer and Canvas windows. The Canvas window will display the active angle in 1-up mode, as will your external monitor, while the Viewer will show the angles in your chosen view, such as 4-up, 9-up, and so on.

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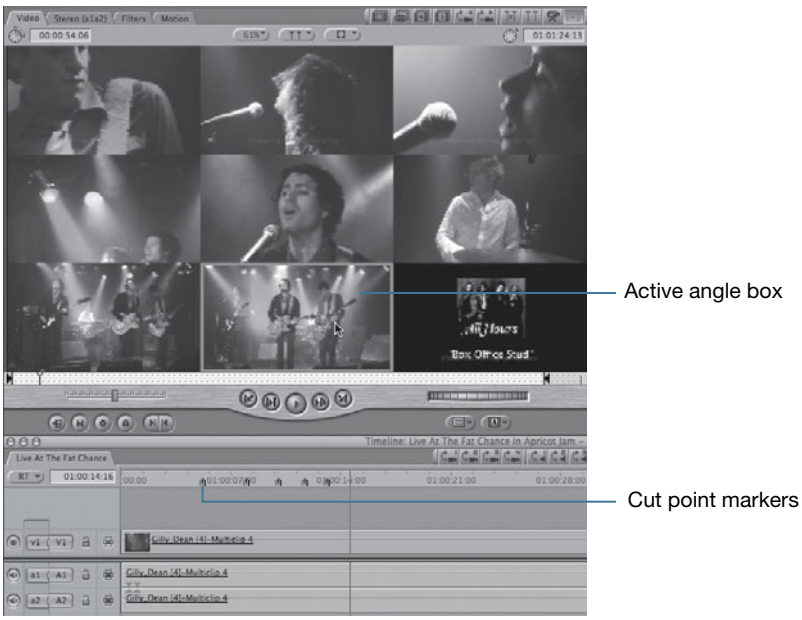
3 To cut to a different multiclip angle, *do one of the following:*

- Click an angle in the Viewer.
- Click a Switch Video (or Switch Audio) button in the Timeline button bar.
- Press Command plus the number of the desired multiclip angle.

When you cut to a different active angle, three things happen. The Canvas and external monitor displays the new active angle, the blue/green box indicating the active angle frames the new angle, and a blue marker appears in the Timeline ruler area, indicating the angle switch point.



When you stop playback, edits are added at every blue marker position, and the angle at each marker position switches to the angle you chose.

Switching and Cutting Video and Audio Independently

At times you will want to cut or switch video and audio separately. For example, in music performance or music video projects, you might want a particular audio track—say, the board mix or studio recording—to remain the active audio while you switch video angles only.

Final Cut Pro does not have a Group menu, but you can choose the appropriate options in the Playhead Sync menu in the Viewer.

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To cut or switch video or audio only:

1 In the Viewer, click the Playhead Sync pop-up menu and choose Video to switch or cut just video, or choose Audio to switch or cut just audio.

2 *Do one of the following:*

- In the Viewer, click the video or audio angle you want to make the active angle. This will switch angles if playback is paused or will perform a cut if you are editing on the fly.
- In the Viewer, click the Playhead Sync pop-up menu and choose a new active video angle.
- In the Timeline, click a Switch or Cut multiclip button.
- In the Timeline, Control-click the multiclip in the Timeline and choose the active angle from the shortcut menu.
- Use a keyboard shortcut.

If you choose to switch or cut video, when you click another angle only the blue video box moves to the active angle, while the green box indicates the active audio angle. In the Timeline, only the video portion of the multiclip will switch or cut.

Switching Angles with Effects

You can apply filter, speed, and motion effects to segments of a multiclip in the Timeline the same way as you would to a single clip. But unlike in Avid, where segment effects stay attached to a group clip segment even if you switch angles, in Final Cut Pro you have a few things to consider when switching to a different angle.

When you drag a filter to a multiclip segment, an overlay will appear, asking you to choose one of two options:

- Apply to Source Angle—The filter is applied to the source angle and will stay applied to that angle even if you switch to another angle, allowing you to switch back to the original angle with the effect still applied.

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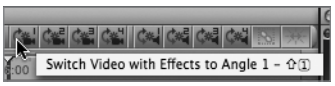
- Apply to Multiclip—The filter is applied to the angle in the multiclip, but if you switch to a different angle, the effect will be lost.

Similarly, motion effects will disappear from the multiclip segment unless you choose to switch using the Switch Video (or Audio) with Effects buttons included in the Timeline multiclip buttons. In general, choosing to switch with these commands—either by clicking the buttons in the button bar or by using the keyboard shortcuts—will ensure that the effects stay applied to the segment even after switching camera angles.



NOTE ► If you apply a filter to a source angle instead of to the multiclip, when you switch to another angle using Switch Video with Effects, the filter is applied to the source angle of the new active angle. If instead you have applied a filter to the multiclip, the filter will move from one active angle to another.

Collapsing Multiclips

Once you've completed editing your multiclip, refined your edit points, and settled on your camera angles, you may need to output your sequence and pass it along to someone else, such as a colorist or an audio mixer. Instead of passing along an active multiclip, in which angles could be switched, you can choose to collapse the multiclip, so that only the active angles are part of your sequence. Not only do you prevent another editor (or yourself, for that matter) from accidentally switching or cutting, but you also increase system performance, since fewer streams of video need to be processed. Unlike Avid's "Commit Multicam Edits" command, which is undoable, you can *uncollapse* a multiclip at any time. But if you plan to pass the sequence along to another editor or even another system using an EDL, especially during the finishing process, it helps to focus only on the active angles.

To collapse single or multiple multiclips:

1. Select the multiclip segment(s) you want to collapse.

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2 *Do one of the following:*

- Choose Modify > Collapse Multiclip(s).
- Control-click one of the selected segments and choose Collapse Multiclip(s) from the shortcut menu.

In the Timeline, the name of each multiclip changes back to just the source clip name.

NOTE ▸ To uncollapse a multiclip, simply follow the preceding steps but choose Uncollapse Multiclip(s) from the menu.

What You've Learned

- In a multicam production, multiple cameras shoot the same action simultaneously from different angles.
- Capturing or digitizing media at a lower resolution will improve the performance of real-time multiclip editing.
- You can enter angle information into the Angle field in the Log and Capture window or into the Browser's Angle column.
- As in Avid, angles in multiclips are synchronized using either In points, Out points, or common timecode as a sync reference.
- As in Avid, you group clips by selecting them in the Browser and choosing Modify > Make Multiclip, or by Control-clicking one of the selected clips and choosing Make Multiclip from the shortcut menu.
- While you can group up to 128 angles into a multiclip, only 16 can be viewed and played in real time.
- Multiclip angles can be viewed as 1-up, 4-up, 9-up, or 16-up. These options are found in the View pop-up menu in the Viewer.
- You can toggle multiclip overlays on or off to display source angle name, number, and source timecode from the View pop-up menu in the Viewer, or by choosing View > Show Multiclip Overlays.
- To change the order or arrangement of angles in split view, you hold down the Command key and drag an angle to a new position.
- To resynchronize an angle in a multiclip, hold down Shift and Control and drag left or right to slip the angle's source media backward or forward in time.
- You can drag a multiclip to the Timeline or Canvas only by holding down the Option key before you drag the multiclip from the Viewer.

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- To delete angles from a multiclip, hold down the Command key and drag the angle out of the Viewer window.
- You can add angles to a multiclip once it has been created, even if it has already been edited into a sequence.
- Unlike in Avid, Final Cut Pro has explicit functions for switching angles and cutting angles, regardless of playhead position.
- As in Avid, you can cut angles live on the fly using keyboard shortcuts.
- As in Avid, you can cut or switch audio and video at the same time, or video or audio only, by choosing an option from the Playhead Sync menu in the Viewer.
- You can apply a filter, speed, or motion effect to an angle in a multiclip and switch to a different angle while keeping the applied effect by using the Switch Video (or Audio) Angle with Effects buttons in the Timeline button bar, or by using those keyboard shortcuts.
- Final Cut Pro comes with standard multiclip button bars and keyboard layouts, which you can modify and save.
- To simplify your sequence for output to another system, you can collapse a multiclip to contain only the active angles. You can uncollapse a multiclip at any time.

Keyboard Shortcuts

All multiclip shortcuts require the Multi-camera Editing layout and use the numeric keypad.

F10	Overwrite edit
Command-1 through Command-9	Cut Video to Angle 1 through 9
1 through 9	Switch Video to Angle 1 through 9
Clear	Switch Video to Previous Angle
=	Switch Video to Next Angle
Option-1 through Option-9	Switch Audio to Angle 1 through 9
Option-Clear	Switch Audio to Previous Angle
Option-=	Switch Audio to Next Angle
Shift-1 through Shift-9	Switch Video with Effects to Angle 1 through 9
Shift-Clear	Switch Video with Effects to Previous Angle
Shift-=	Switch Video with Effects to Next Angle

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8

Goals

View and monitor audio levels

Edit and view audio tracks

Change audio levels

Change audio levels in the Timeline

Work with stereo and mono audio

Link clips

Work with sync indicators

Keyframe audio levels

Work with the Audio Mixer tool

Merge clips

Add a voiceover track

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Lesson **8**

Editing Sound

In the area of audio, Avid and Final Cut Pro share many similarities. Both systems have audio mixers, rubberbanding capability, audio effects such as equalizers, and direct Timeline keyframing; and both indicate when audio tracks have gotten out of sync. Yet they have a few major differences, as well. Among these is their interface layouts.

The FCP Viewer has a separate Audio tab, which provides a place to set levels and keyframes for a clip, and quickly lets you view the clip's audio waveform and perform audio edits. Some minor differences include the FCP Timeline sync indicators—which are red flags, in contrast to Avid's more subtle frame references. In addition, FCP can have 99 Timeline audio tracks, compared to Media Composer's 24 audio tracks. You can create a merged clip in FCP, which can be one video clip combined with up to 24 different audio clips, and then treat it as a single clip. With Final Cut Studio 3, you can send a file or sequence to Soundtrack Pro for fixing or enhancing. You can also create a mix in surround sound, and then monitor the surround sound sequence from within FCP.

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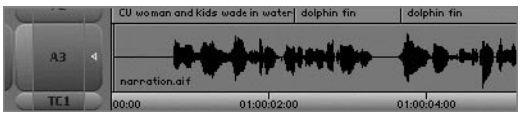
Viewing Audio Levels

In both Avid and Final Cut Pro, it's helpful to view a representation of the audio to fine-tune your audio adjustments. In Avid's Timeline, you see the audio activity by choosing Fast Menu > Audio Data > Waveform; a similar option is available in the FCP Timeline. In addition, the FCP Viewer has a separate tab that displays just the audio portion of a clip.



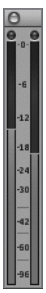
Avid's waveform display in Timeline

Audio Meters

There are two ways you can view your project's audio levels: through the audio meters or the Audio Mixer tool. The audio meters are part of the default FCP interface, but you can choose to close them. They can display source audio from the Viewer or mixed audio from the Timeline. You can also view your audio levels in the Audio Mixer tool, which is covered later in this lesson.

To open the audio meters:

- Choose Window > Audio Meters, or press Option-4.



FCP audio meters

Audio Tab

In Avid, when you want to view the waveform of an unedited clip, you have to click the Toggle Source/Record button in the Timeline to view the source clip waveform. In FCP, when you open a video clip that also has audio, you'll see the audio waveform represented on a tab in the Viewer. If a clip has stereo audio, which is the default capture configuration

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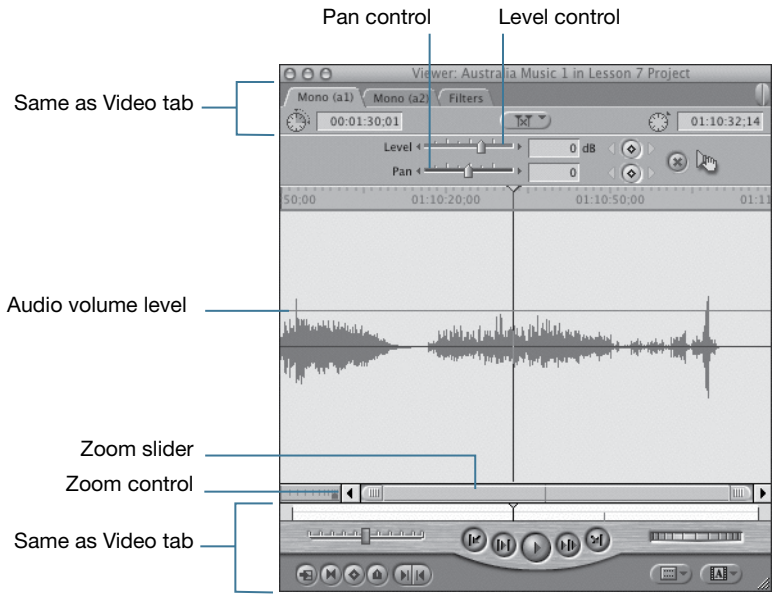
for DV, a single Stereo (a1a2) tab displays the waveforms for the stereo pair of tracks. If the clip was captured with two mono tracks, Mono (a1) and Mono (a2) tabs appear with the appropriate track in each tab. If a clip has a single mono track of audio, a Mono (a1) tab will appear. Of course, if a clip has no video, the video tab will not appear, nor will an audio tab if no audio is present in the clip.

Stereo audio tabs

Two-channel Mono audio tabs

The Audio tab shares features with the Video tab, including clip duration and timecode location fields at the top of the window, and scrubber bar, jog and shuttle controls, and Play and Mark buttons at the bottom of the window. Above the scrubber bar are the zoom controls to zoom and slide the waveform display. The shortcuts and methods you used to zoom and control the Timeline display also work in the Viewer audio tabs. There are also specific audio controls for level and pan, as well as keyboard shortcuts, which will be covered later in the lesson.



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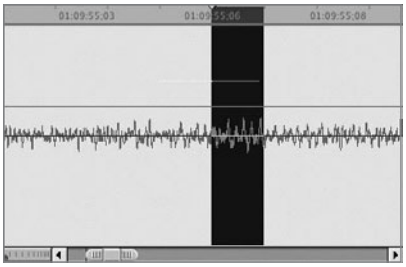
NOTE ▶ If your audio is mono tracks, you can adjust a separate pan direction for each track. If audio is a stereo pair, adjusting the pan swaps the direction of the two tracks, making the left channel go to the right, and vice versa.

TIP In the Viewer, drag the zoom control to the far left to zoom into the audio track as much as possible. When you do this, the playhead widens to indicate the width of a single frame. Later in this lesson, you'll learn how to set keyframes on a subframe level when zoomed in to this level of magnification.



Waveform Display

In each Viewer audio tab is an audio waveform display (or two waveform displays if the clip has stereo audio). The waveform display is always present when you select the audio tab of the Viewer, but once a clip has been edited, it can be turned off and on in the Timeline.

To display the audio waveforms in the Timeline:

Do one of the following:

- In the Timeline, choose Sequence > Settings, or press Command-0, and select the Timeline Options tab. Select the Show Audio Waveforms box.

- Press Command-Option-W. In the Timeline, you see a waveform display in all of the audio tracks.

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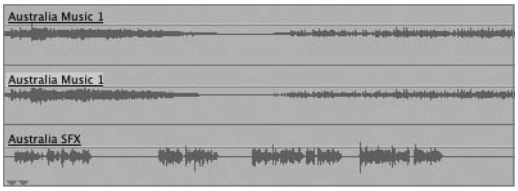
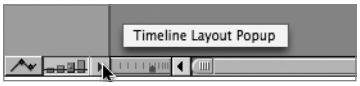
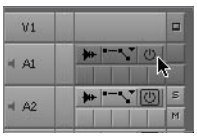


- Click the Timeline Layout pop-up control, and from the pop-up menu, choose Show Audio Waveforms.



Monitoring Audio Tracks

Obviously, it's important to hear the audio tracks in order to make editorial decisions. Like Avid, Final Cut Pro allows you to monitor tracks, scrub through them, and isolate or solo single tracks. Both Avid and FCP can turn off sound for a track, but in FCP, as well as in Avid 5, it's important to distinguish between muting a track and disabling it.



Avid Track Monitor control

In FCP, there is a green Audible control at the far left of each Timeline track. If the Audible control is toggled on, you will hear the audio from that track. If it is toggled off, the track will go dark, and you won't hear any audio from that entire track. You can also disable sound for a selected clip or clips in the Timeline. Disabling audio in this way doesn't only mute the track or clip, it literally removes it from the processing equation similar to clicking off the Audio Track Monitor button in the Avid 5 track control panel.

NOTE ► Disabled tracks or clips will not be part of an export or Edit to Tape operation, whereas track mute or solo controls are ignored when exporting.

FCP Audible control

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To enable or disable sound:

Do one of the following:

- Toggle off the Audible control on the far left of the Timeline track that you don't want to hear.
- To disable all but one track, Option-click that track's Audible control.
- To disable sound for a single clip, Control-click the clip and choose Clip Enable from the shortcut menu, or press Control-B. You can also apply this method to a group of selected clips.

NOTE ▶ Clip Enable works for both video and audio to toggle a clip's visibility temporarily.

Monitoring Single Clips or Tracks

To isolate just one audio track out of many, you don't have to toggle off each track's Audible control. Instead, do what you do in Avid and isolate, or solo, that track. When you solo one track, you automatically mute the others. You can solo an entire track by using the audio controls in the Timeline, or you can solo clips by selecting a clip or clips and choosing that option from a menu or shortcut. You can also control the Solo and Mute functions in the Audio Mixer, which is covered later in this lesson.

Avid 5 Mute and Solo controls

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To solo a clip or track:

Do one of the following:

- In the far-left corner of the Timeline track area, click the Timeline Audio Controls button to reveal two additional track controls. You will see speaker icons to mute tracks and headphone icons to solo tracks. Click the Solo button for the track you want to solo. Click it again to turn soloing off for that track.

Audio Controls toggle button

Mute and Solo controls displayed

- Select the clip or clips you want to solo in the Timeline and choose Sequence > Solo Selected Item, or press Control-S. Press Control-S again to come out of solo mode and to turn on the other tracks again.

In solo mode, all other audio tracks that overlap the selected clip will go dark and will not be heard, even though their Audible controls will remain on.

Scrubbing Audio

Like Avid, FCP has two modes of scrubbing audio. One gives you a digital "garbage" sound when you manually scrub the playhead through a clip. The other gives you smoother, more realistic-sounding audio, like an analog scrub or scrubbing a VTR, where you can actually distinguish what someone is saying. Scrubbing the digital sound is a good way to track the sound of a clip or sequence without having to listen to it while you're editing. But there may be times when you want to turn this digital scratch off and just focus on the video images.

To turn audio scrubbing on or off:

Do one of the following:

- Choose View > Audio Scrubbing. A check mark indicates that it's currently active.
- Press Shift-S.

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These actions toggle scrubbing on or off in the Viewer, Canvas, and Timeline similar to enabling Caps Lock in Avid.

TIP You can also use the shuttle control in either the Viewer or the Canvas to scrub through audio, or the J-K-L keys. Hold down K and press L to scrub forward slowly or J to scrub backward slowly. Using the shuttle control offers a much more analog style of scrubbing than dragging the playhead.

Editing and Viewing Audio Tracks

When editing a clip that has audio and video, you can use an appropriate shortcut or easily drag the clip's image to the Canvas Edit Overlay or into the Timeline. When a clip is only audio and has no video image, you must use a different approach when you drag. Audio tracks are targeted to destination tracks just as video tracks are, and all of the Overwrite and Insert keyboard shortcuts still apply. Once an audio clip is in the Timeline, there are ways to focus on specific tracks and adjust the Timeline so that more audio tracks can be displayed.

To edit an audio-only clip to the Canvas or Timeline:

Do one of the following:

- Find the drag hand in the upper-right area of the Viewer's audio tab, and drag the audio clip directly to the desired location in the Timeline tracks. If no tracks exist, they'll be created automatically.

- Drag the drag hand from the audio tab into the Canvas Edit Overlay and release it over the appropriate option. The audio clip will fill whatever tracks have been targeted.
- Use the shortcuts F9 to insert the source audio, F10 to overwrite with it, or F11 to replace existing audio.

NOTE ► These shortcuts will apply only if you changed the Mac OS X Exposé function keys as outlined in Lesson 2.

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To expand the audio tracks area:

You can change the height of individual audio tracks in the Timeline by dynamically resizing them individually or as a group using Option-drag. You can also drag the dividing line between video and audio tracks so the Timeline favors video tracks over audio, or vice versa.

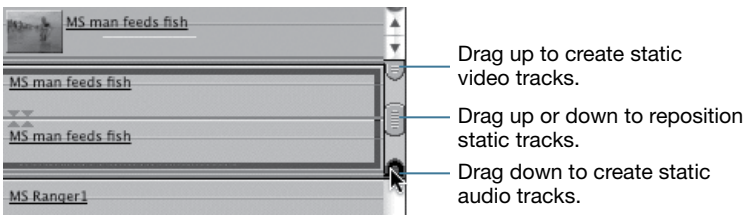
1 Move the pointer over the middle A/V dividing line in the Timeline.

2 When the pointer changes to the up-and-down Resize pointer, drag upward to minimize the video track space and increase the audio track space.

To create a static track area:

To focus on or isolate just a few audio tracks while you are editing, you can make a portion of the Timeline static. This keeps the static tracks in constant view while you scroll through the others, allowing you to compare waveforms in non-adjacent tracks side by side.

- Find the Timeline static tab to the right of the tracks. Drag the lower tab downward to include the tracks and create a static audio display.


MS man feeds fish
MS man feeds fish
MS man feeds fish
MS Ranger1
Drag up to create static video tracks.
Drag up or down to reposition static tracks.
Drag down to create static audio tracks.

How far you drag determines the number of tracks that will be visible in the static area. You can move the static area box by dragging the center slider up or down, or return to the default layout by dragging the lower tab back to the center.

A1 and A2 static tracks above A5 and A6 scrolled tracks

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TIP When you want to focus on a single audio track—perhaps to add keyframes or change the audio volume of a clip—you can change the track height by dragging its boundary line up or down as discussed in Lesson 3. You can change all audio tracks to the same height by Option-dragging any audio boundary line.

Changing Audio Levels in the Viewer

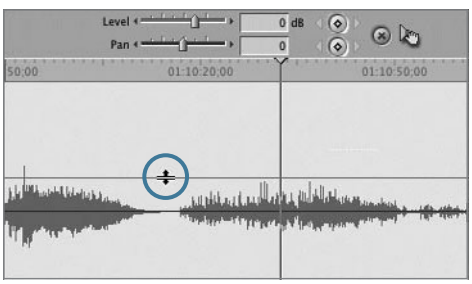
Although both Avid and FCP have an audio mix tool, which is discussed later in this lesson, you can perform many of the FCP audio level changes directly on the clips in the Viewer or Timeline. You can change the audio level of a clip at either the source level or the sequence level. In other words, you can make changes in the Viewer or in the Timeline. If you open a clip from the Browser and change its audio level in the Viewer, that level will remain with the source clip no matter how many times you use it in the Timeline. If you change the level of a clip in the Timeline, you are adjusting the level of that single sequence clip for that specific use only.

To change audio levels in the Viewer:

1 Select the audio tab in the Viewer.

2 *Do one of the following:*

- Move the Level slider left or right.
- Enter a numerical value in the dB box.
- Drag the pink volume overlay line up or down.
- Position the pointer over the Level slider and use the scroll wheel on your mouse to move the slider left or right.



In the waveform display, a pink overlay line represents the overall gain level. When you change the audio level, this line moves up or down to represent the increase or decrease in gain.

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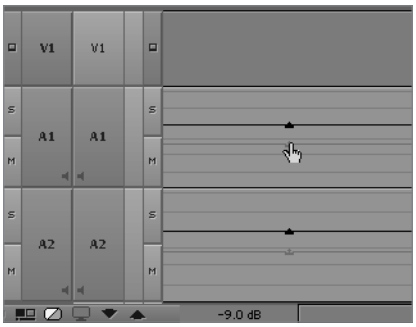
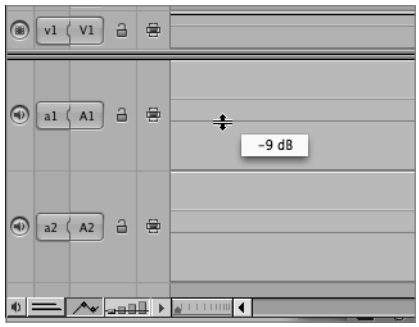
NOTE ▶ Once you have set levels, you can copy and paste just the levels to a selected clip or group of clips. This is called pasting attributes and is discussed in detail in Lesson 9.

Changing Audio Levels in the Timeline

In Final Cut Pro, as in Avid, you can change the audio level of a clip directly in the Timeline. This will change the level for a Timeline sequence clip only, not the affiliated master clip. In Avid you adjust Clip Gain levels using the Audio Mixer and Auto Gain levels using the pointer in the Timeline; but FCP has only one audio level line to adjust, and you do not have to add any keyframes before you can do so.



Avid Auto Gain adjustment on Timeline clip



FCP audio level on Timeline clip

In Avid, to see the audio-level line on a clip, you choose Fast Menu > Audio Data > Auto Gain. In FCP, you toggle the Clip Overlays control, which is in the lower portion of the Timeline, next to the Track Height control. When this option is selected, a thin, pink horizontal line appears in the upper portion of all audio clips. This is the same pink volume overlay line you saw in the Viewer audio tab.

To change the clip audio level in the Timeline:

1 In the lower-left track area of the Timeline, click the Clip Overlays control.

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In the Timeline, a pink overlay line appears on all audio clips, and a black overlay line appears on video clips. The video overlay line, discussed in Lesson 9, controls video opacity.

2 In a Timeline audio clip, move the mouse pointer over the pink overlay line and drag up or down. A gain amount will be displayed. If two tracks were captured as a stereo pair, their volume level lines will move in tandem.

3 To change levels of the selected clip from the menu, choose Modify > Audio and select one of the options.

One of the Modify > Audio options is Apply Normalization Gain. This applies a filter to a selected clip that raises the peak level of an audio clip to the desired level.

4 To raise or lower the level of any clip using keyboard shortcuts, park the playhead over the clip and press Control-+ or Control-– (plus or minus) to raise or lower the audio by 1 dB (digital). Press Control-[or Control-] (left or right bracket) to raise or lower the level of that clip by 3 dB (digital).

NOTE ▸ When the playhead is parked over more than one audio clip, these shortcuts will affect all audio clips under the playhead with their Auto Select controls enabled. If you want to change the level of only one clip, select that clip and then use the shortcuts or toggle off Auto Select controls for any tracks you wish to exclude.

TIP These shortcuts also work during playback, allowing you to make adjustments on the fly to selected clips or tracks with Auto Select turned on.

To adjust the audio levels of multiple clips:

1 To select the clips you want to adjust, *do one of the following:*

- Marquee the clips using the default Selection tool.
- Shift-click adjacent clips.
- Command-click to select nonadjacent clips.
- Use the track selection tools to select entire tracks.

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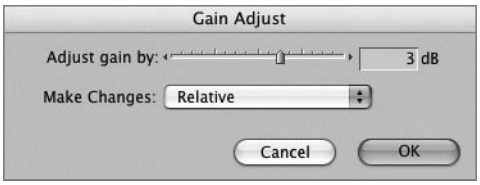
2 With clips selected, *do one of the following:*

- Choose Modify > Audio and select one of the options.
- Choose Modify > Levels, or press Command-Option-L.



The Gain Adjust dialog appears, offering two options. A Relative change will keep the relationship between the clips' mix levels intact as the overall gain is increased or reduced. An Absolute change will flatten the audio levels so that they are all at one specific level.

- Use the keyboard shortcuts on all selected clips.

Working with Stereo and Mono Audio

In most capture situations in Avid, audio brought in from an analog source is converted to two discrete audio channels. In Avid 5, after capture you can convert discreet tracks to a stereo track using the Set Multichannel Audio option in the Modify menu. In Final Cut Pro, discrete audio channels appear as two separate Mono tabs in the Viewer. But you can also choose to capture two audio tracks as a stereo pair in FCP, which then share one Stereo tab. Regardless of whether tracks are captured as a stereo pair or separate left and right channels in FCP, they can be "unpaired" or "re-paired" according to your needs during editing. However, whereas Avid allows you to split multichannel tracks into mono tracks in the bin or Timeline, FCP clips can only be unpaired or re-paired in the Timeline window.

FCP treats a stereo pair of audio clips as if they were one track, although they appear as two separate clips on two separate tracks in the Timeline. The benefit of working with stereo pairs is that whatever you do to one track also affects the other: Change a level on one track, and the level also changes on the other track. Add an effect or cross fade to one track, and it's applied to both tracks simultaneously. Add a level keyframe to one, and it appears on the other.

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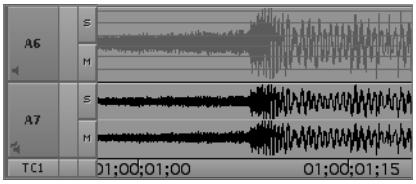
NOTE ▶ When two clips are a stereo pair, you will see two sets of double triangles that point toward each other. These are stereo pair indicators. You can think of them as the metal clips that hold elastic bandages together; the triangles are binding the two audio clips together.



Avid mono and stereo tracks

FCP stereo pair indicators

Mono tracks can be selected together (if they are linked), but making a change to one track, such as adding an effect or changing its volume level, will not affect the other mono track.

To unpair or re-pair audio tracks:

1. Select the clip or clips in the Timeline that you want to pair or unpair.
2. Choose Modify > Stereo Pair, or press Option-L.

   If the clip is already a stereo pair, the Modify menu option will have a check mark by it, and the clip will have the stereo pair indicators.

TIP To change the pan of a selected clip using shortcuts, press Control-, (comma), Control-– (minus), or Control-/ (slash) to pan left, center, or right, respectively.

Linking Clips

Like Avid 5's clip-linking and Link Selection features, Final Cut Pro also has clip-linking and linked selection features that help editors maintain audio/video sync when trimming or moving clips in the Timeline. FCP locks the sync of a clip's audio and video tracks during editing if those tracks were digitized or captured at the same time, as long as linked selection is enabled. When tracks are captured together, FCP recognizes and refers to them as a linked clip. If tracks are ingested separately, as when bringing together double-system video and audio sources, you join them with the Merge Clips function similar to Avid's

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AutoSync. You can change the status of a linked clip at any time, either making it unlinked or linking it to different clips altogether. There are two aspects of linking clips in FCP. One involves selecting linked clips in the Timeline and the other involves actually changing the link status of a clip or clips.

Selecting Linked Clips

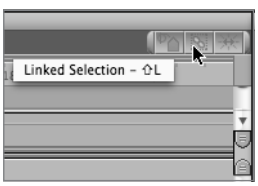
By default, if a clip's audio and video are linked, selecting one portion of the clip will select all tracks associated with that clip. You will experience this when you move all tracks of a clip by dragging just the video or just the audio portion. This makes sync editing and trimming easy, because linking, like Avid's AutoSync, carries sync relationships between tracks. If, later on, the audio or video clips are moved independently, they will display sync warning flags. To select only one part of an FCP linked clip—just the audio or video, for example—you must first override linking by turning off linked selection. This is exactly like turning off Link Selection in Avid's Timeline. (FCP and Avid even use the same keyboard shortcut, Shift-L.) You can toggle this function off or on in the Timeline button bar or on the clip itself.

Avid Link Selection button

To select one portion of a linked clip:

Do one of the following:

- Toggle off the Linked Selection control located in the Timeline button bar.



- Press Shift-L.

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These two options turn linking off or on for the entire Timeline.

- To override Timeline linking temporarily, or to apply it to a single clip, Option-click a clip's video or audio track to select just that track.

Now the clip's video or audio can be moved independently. However, once the clip is deselected, the link is restored.

NOTE ► If a clip was captured with stereo audio, selecting one audio track will automatically select the other as well, even with linked selection off.

TIP To get completely discreet selection for any clip on any track, you must either capture audio as discrete mono tracks, or turn off stereo pairing, then turn off Linked Selection. While you can only re-pair audio one clip at a time, you can select multiple clips in FCP and toggle off stereo pairing with one operation.

Linking and Unlinking Clips

Let's say you captured a clip as both audio and video. In your sequence, you may want to work with that source material separately, perhaps to trim the audio differently than the video. In FCP, when you unlink the tracks of a linked clip, you have independent control over each track and can treat the audio and video as two separate clips in the sequence. Once the clip is unlinked, you can even reconnect the video portion to a different audio clip.

To link or unlink a clip:

1. Select an audio/video clip in the Timeline. Linked clips have an underline under their names to indicate they are linked.

Linked clip with line under name

Unlinked clip (mono tracks)

2. Choose Modify > Link, or press Command-L. When you toggle the Link command on a selected clip, it will reverse its linking status, linking an unlinked clip or unlinking a linked one.

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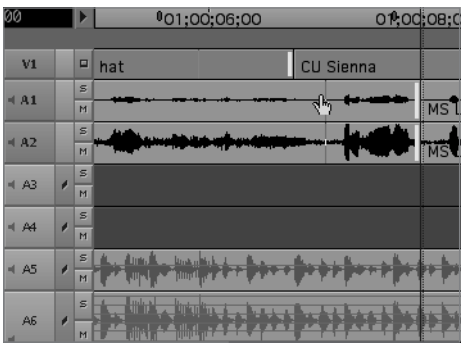
NOTE ▶ When a clip becomes unlinked, the linking line is removed from the name in all tracks. If the remaining audio is a stereo pair, the line remains under the name in the audio tracks.

Unlinked clip (stereo tracks)

TIP If you have two individual clips you want to link—perhaps to combine a generic sound effect to a specific visual action, or a double-system dialogue track to the corresponding video—place them in proper sync in the Timeline, select them, and press Command-L to link them together as one clip.

Syncing Tracks in the Timeline

When working in the Avid Timeline, the sync lock feature is an indispensable tool for controlling the audio/video sync relationship. Some editors keep sync lock turned on constantly for all tracks so that Splice-In or single roller trim operations cannot knock audio and video tracks out of sync. Other editors may add edits to track gaps so they can select them in Trim mode and have complete control over synchronous or asynchronous editing across all tracks.



Trimming with sync lock turned off in Avid

Avid editors who are used to applying sync lock to all tracks all the time can rejoice! As long as you leave linked selection turned on, the FCP Timeline will operate as if sync lock is on for all tracks whenever you perform an insert edit or ripple trim, which is exactly as

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you would expect. However, when you turn off sync lock for a track (for example, to trim back an SOT clip on A1 and A2 without introducing a gap into a music track on A7 and A8), you may be at a loss as to what to do when FCP prevents you from making the trim and flashes a Clip Collision warning. Clip collision is how FCP prevents you from making a trim that would change the sync relationship between tracks; it's like a safety feature for novice editors, but one that you can easily bypass.

Clip Collision warning while trimming in FCP

Because FCP assumes that all tracks are sync locked, you use the Lock Track controls to essentially turn off sync lock for tracks that you *don't* want affected by the edit. Since a locked track cannot be affected by any kind of editing operation—including insert edits, ripple deletes, and ripple trim edits—turning on the lock for a track in FCP allows you to exercise the same kind of sync control as turning off sync lock in Avid.

To trim without clip collision:

1. Lock any tracks you don't wish to ripple as the result of a trim.
2. Select the edit points you wish to trim with the Ripple Trim tool (RR).

   NOTE ▶ You can lock tracks before or after selecting edit points for trimming.

3. Drag left or right to perform the trim. You can also load the edits into the Trim Edit window for dynamic trimming.

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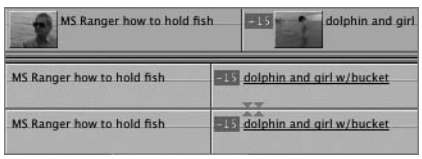
Trimming with Lock Track on in FCP

TIP To lock all audio tracks or all video tracks, Option-click the Lock Track control for a single track, which locks all but that one track, and then click the Lock Track control for that track.

Using Sync Indicators

Avid uses subtle sync break indicators to let you know when your locked tracks have gone out of sync. The Final Cut Pro sync indicators are not at all subtle: They look like big red flags in comparison. But that's a good thing. Having a very clear indication that you have just done something to throw your clip or sequence out of sync can be helpful, enabling you to undo your mistake quickly and easily.

Avid sync break indicators


MS Ranger how to hold fish
dolphin and girl
MS Ranger how to hold fish
dolphin and girl w/bucket
MS Ranger how to hold fish
dolphin and girl w/bucket

FCP out-of-sync indicators

FCP remembers whether you originally captured your clips with the audio and video in sync or as separate tracks. If you captured them as a unit and you move either the audio or video portion, a red-flag sync indicator will warn you that the clip is no longer in its original sync configuration.

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Out of Sync on Purpose

You may have pulled some tracks out of sync for a reason. Maybe the audio wasn't quite in sync to begin with, and you needed to correct it. If so, you probably don't want those big red flags waving at you for the rest of the project. Just tell FCP to look at the current (out-of-sync) clip again and consider it to be in sync.

To accept out-of-sync status:

1 Select the clip in the Timeline that is currently displaying red out-of-sync indicators.

2 Choose Modify > Mark in Sync.

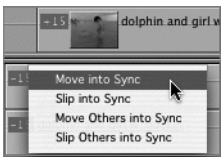
The red flags disappear, and FCP considers the clips to be in sync in their current configuration.

To put a clip back in sync:

With this elegant feature, if you don't want a clip to remain out of sync, you can easily put it back in sync.

1 Select the audio or video track that you want to move back in sync.

2 Control-click the out-of-sync indicator.



3 From the shortcut menu, *do one of the following:*

- Choose Move into Sync to move that portion of the clip backward or forward to be in sync with its counterpart tracks.
- Choose Slip into Sync to leave that portion of the clip in its current Timeline position, but slip it so that it is in sync with the other tracks.
- From the video clip, choose Move Others into Sync or Slip Others into Sync to conform multiple tracks of audio to the desired sync relationship.

NOTE ► These functions will not overwrite existing clips in the Timeline.

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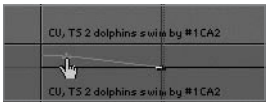
Keyframing Audio Levels

Just as in Avid, you can set keyframes in Final Cut Pro directly on a clip. You can also set keyframes in the Viewer audio tab area. In the Viewer, you can actually perform subframe audio keyframing down to 1/100th of a frame, and these edit decisions can even be sent to Soundtrack Pro or exported in an OMF for finishing on another station.



Avid keyframe and volume ramp

FCP keyframe and volume ramp

Keyframing an Audio Clip

The process of setting keyframes in FCP is very similar to the process in Avid, but the tool is different. Rather than using a keyframe command button which you can map to your button bars, FCP uses a Pen tool, which may be familiar if you have worked with Photoshop, After Effects, or some other graphics programs.

When you set a keyframe on an audio clip that is part of a stereo pair, the keyframes are applied to both clips. This can be a very valuable tool if, for example, you want to duplicate custom level changes on two concurrent tracks. Linking those clips and then applying keyframes to one of them gives you the exact levels and keyframe controls in both. When these clips are unpaired, the keyframes remain.

To set audio keyframes in the Timeline:

1 In the Timeline, make sure that the Clip Overlay option is toggled on.

2 *Do one of the following:*

- Select the Pen tool from the Tool palette, or press P. When you move the mouse pointer over the pink overlay line, a Pen tool appears. Click the overlay line in the clip where you want your keyframe to be.
- Hold down Option, which temporarily converts the default Selection tool to a Pen tool, and click the pink overlay line.

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When you add a keyframe to a clip whose audio is a stereo pair, keyframes are applied to both tracks at the same time.

NOTE ▶ You do not have to move the playhead to a particular point before setting a keyframe as you do in Avid, but you can if you like. You can use the Audio Mixer tool to deposit keyframes on the fly. This is discussed later in this lesson.

To set subframe keyframes in the Viewer:

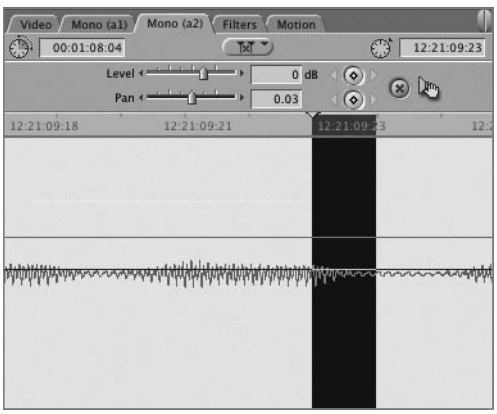
Setting audio keyframes in a Viewer audio tab uses the same Pen tool, or Option shortcut, and pink overlay line as working in the Timeline. Although you can set subframe keyframes in the Timeline when you zoom into a clip, you may find that it's a little easier to do it in a Viewer audio tab because the waveform display is taller. In the Viewer, you can work within 1/100th of a frame of audio, which allows you to drop erroneous sounds that are only a fraction of a second long.

1 Open a clip into the Viewer and click the audio tab.

2 Position your playhead where you want to place a keyframe.

3 Zoom into this position by sliding the zoom control to the far left.

The playhead stem becomes extremely wide, indicating the width of one frame. This area also represents 100 subframes of audio.



4 To drag the playhead within the subframe area, hold down the Shift key as you drag.

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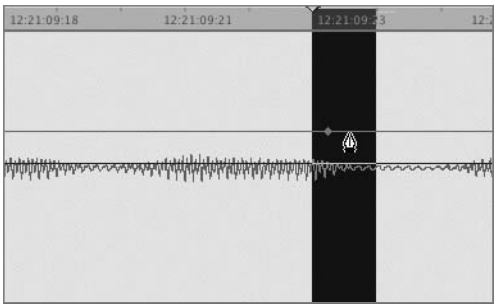
5 Use the Pen tool, or Option-click with the pointer, to set keyframes on the pink level line *within* the black playhead subframe area.



TIP You can also click the Add Audio Keyframe button in the Viewer. The keyframe type that appears on this button reflects the active Viewer tab. By using this Keyframe button, you can set keyframes closer together than you can using the Pen tool.

To delete a keyframe:

Do one of the following:

- Select the Pen Delete tool (PP) and click a keyframe.
- Hold down Option. Move the default Selection tool over a keyframe and click it.

- Control-click a keyframe and choose Clear from the shortcut menu.
- Click a keyframe and drag it up or down outside of the clip area. When you see a small trash can icon to the right of the pointer, release the mouse button.

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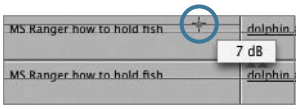
To modify a keyframe:

When you modify a keyframe's location or level, a Gain or Offset box appears next to the keyframe to indicate the amount of change. If you are modifying both the location and level, the box will indicate both amounts.

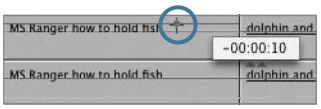
1 Move the Pen tool or pointer over a keyframe until a crosshair appears.

2 *Do one of the following:*

- To change the level, drag the keyframe up or down. An information box appears with the amount of the volume change.



- To modify the placement, move the keyframe left or right. An information box appears with the amount of the placement change. If you move up or down and left or right, both sets of information will appear.



TIP You can set, modify, and delete keyframes in the Viewer's audio tab or tabs using these same methods.

Working with the Audio Mixer

Like Avid's Audio Mix tool, Final Cut Pro has an Audio Mixer, which you can customize to display the number of tracks you want to mix or view. You can control a track's solo and mute functions and create automated keyframes, as you would with Avid's Audio Gain Automation tool. Avid users may be looking for the "tie-in button" to two other audio functions: the Audio EQ tool and the AudioSuite filters tool. These functions are handled in FCP using dedicated audio effect filters.

NOTE ▶ Like certain other FCP window tools, the Audio Mixer is displayed as a tab within the Tool Bench. You can open several tools within the Tool Bench at the same time, and you can access each by clicking its tab.

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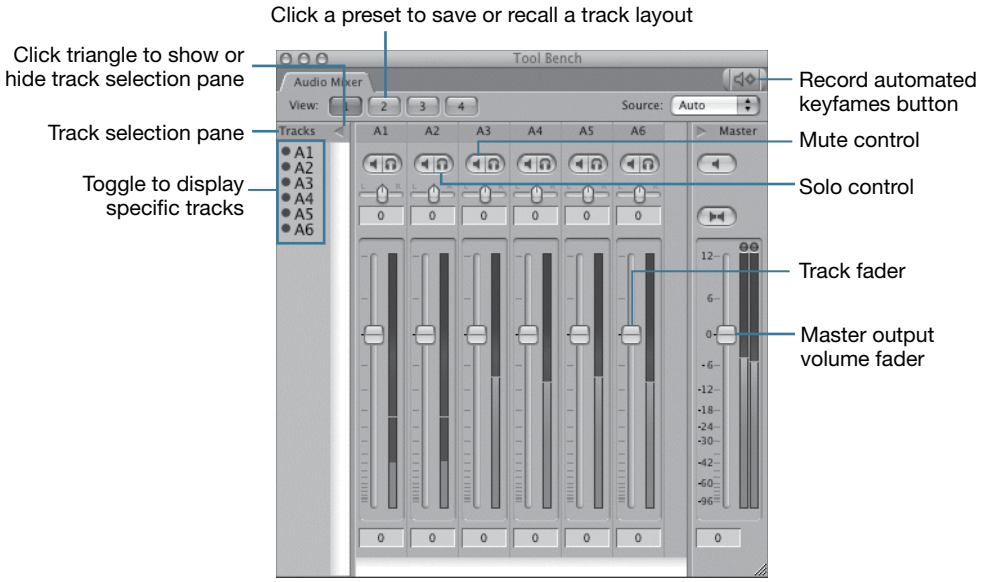
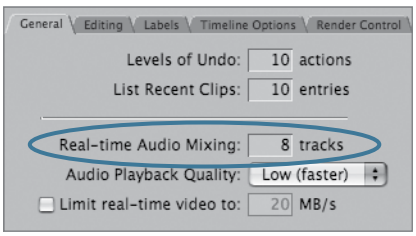


To monitor real-time audio mixing:

FCP can play back multiple tracks of audio in real time. While Avid can only monitor up to 16 tracks, FCP can technically play up to 99 tracks in real time, although that number depends on your computer hardware. Finding this magic number is a bit of a sleuthing process, so before you begin mixing tracks, follow these steps to find out what your computer capabilities are.

1 Press Option-Q to open the User Preferences window, and make sure the General tab is visible.

2 In the Real-Time Audio Mixing field, enter the ideal number of tracks you would like to monitor.



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TIP To improve the performance of audio playback, enter a higher number of tracks in this field than you want to preview.

3 On the right side of the General tab, click the Report Dropped Frames During Playback box (not shown here), and click OK.

4 In the Timeline, stack audio clips at the same position using the total number of tracks you want to monitor, and play the clips.

If you get a warning that frames were dropped while playing, or if you see red render lines appear in the Timeline ruler area, reduce the number of tracks and try again. Continue this process until you can play all tracks without dropping frames. These settings will apply for all new sequences. Rendering is discussed in depth in Lesson 9.

TIP If you created a surround sound mix of a sequence in Soundtrack Pro, you can monitor that sequence in Final Cut Pro. Choose Sequence > Settings and select the Audio Outputs tab. Click the pop-up and choose 5.1 Monitoring. Then select the surround clip and choose Sequence > Match Audio Outputs. As with surround sound audio in Avid 5, if your system does not have an attached multichannel interface for monitoring all six outputs, FCP will downmix to stereo for monitoring.

To open the Audio Mixer:

You can open the Audio Mixer and place that window wherever you want on your monitor. Or you can choose a preset window layout that includes the Audio Mixer.

Do one of the following:

- To open the Audio Mixer window, choose Tools > Audio Mixer, or press Option-6.
- To open a window layout that includes the Audio Mixer, choose Window > Arrange > Audio Mixing.

This places the Audio Mixer in the upper right of the interface and moves the Browser to the lower left.

TIP You can also arrange the windows to your own preferences and save this as a custom layout as described in Lesson 3.

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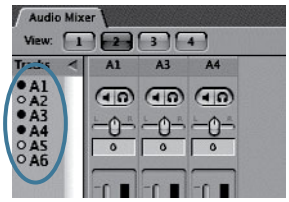
To customize the Audio Mixer:

The Audio Mixer will display whatever tracks exist in the current sequence, up to 99 tracks. However, you can isolate or display specific tracks to mix just those. You can also save that track selection in one of four presets.

1 Click one of the four presets in the upper left of the Audio Mixer.

2 In the Tracks selection pane of the Mixer, toggle a track off if you do not want it to appear, or on if you do.



3 Select a different preset and toggle on the tracks you want to view together in that preset.

4 To recall one of the track layouts, just click the appropriate preset button.

To set levels in the Audio Mixer:

Each track has its own fader to control volume level. Unlike the audio meters, which peak at 0 dB, the Audio Mixer faders continue past 0 dB so you can see how far above this point the volume may fall. The master fader on the far right controls the output of all the audio in the clip or sequence.

1 In the Source pop-up, choose whether you want the Audio Mixer to monitor just the Viewer or Canvas audio, or to monitor what you play in the active window (Auto). The default is Auto.

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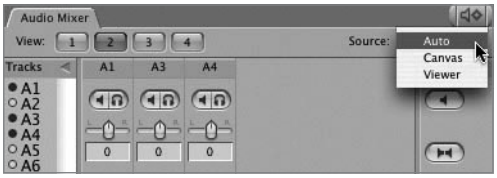


2 Play a clip from the appropriate window and drag the fader up or down on the appropriate track.

3 To monitor just one track, click the Solo button at the top of that track's fader.

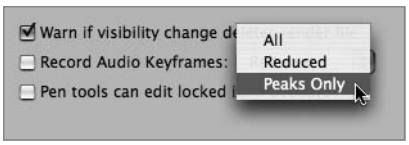
4 To mute a track, click the Mute button above that track's fader.

NOTE ▶ Remember: If digital audio peaks at 0 dB, it will distort.

To set automated keyframes:

Like Avid's Automation Gain tool, the FCP Audio Mixer can create keyframes automatically as you raise and lower the faders.

1 Press Option-Q to open the User Preferences window. In the Editing tab, click the Record Audio Keyframes pop-up menu and choose one of the options.



When recording keyframes, there are three options to control the number and specificity of keyframes added to your clip:

- **Peaks Only**—Set a keyframe only for the peaks of your audio levels.
- **Reduced**—Set keyframes for the primary movements of your audio levels.
- **All**—Set keyframes for every audio level change you make.

2 In the User Preferences window, click the Record Audio Keyframes checkbox to toggle the function on. You can also toggle it off or on in the Audio Mixer button bar, or use the keyboard shortcut Command-Shift-K.

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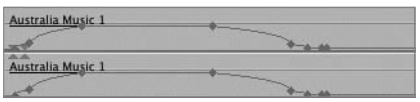
3 In the Timeline, make sure Clip Overlays is active so you can see the pink volume overlay lines.

4 Play the clip, clips, or area in the Timeline you want to adjust.

5 As the sequence plays, drag the fader up or down on the track for which you want to set keyframes.

When you stop playing, the keyframes will appear on the clip whose level you were adjusting.



Keyframes set using the Reduced option

TIP If you repeat the process, you will replace the keyframes where a different level occurs but not necessarily remove other keyframes. This allows you to go in and change or replace just one section. If you want to start from scratch with no keyframes, press Command-Option-L to open the Gain Adjust dialog, set the level to 0 dB, choose Absolute from the Make Changes pop-up menu, and click OK.

Merging Clips

Final Cut Pro lets you group, or *merge,* clips together so they can be treated as one clip. You learned earlier in this lesson that you can link a video clip to a different audio clip by using the Link command. The FCP merge clip function allows you to add up to 24 tracks of audio to one video clip to work with that clip as though it were a single clip. This can be helpful when working with dual-system recording. It allows you to capture all the elements separately and then merge them together within FCP.

You can merge clips from the Browser or the Timeline. Merging clips from the Browser requires you to open the clips in the Viewer first and synchronize them according to the In point, Out point, or one of the timecode options. Merging clips in the Timeline may

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not require this additional step, because you may have already synchronized them in the sequence and simply want to treat or save those tracks as one merged clip.

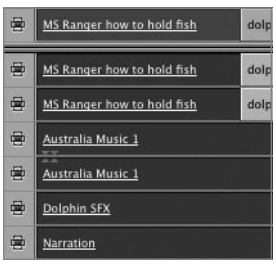
To create a merged clip in the Timeline:

1 In the Timeline, configure the clips the way you want them to be synchronized, using any of the FCP editing tools.

You can use one video clip and up to 24 audio clips. You can also merge just a group of audio clips.

2 Click to select the first item you have synchronized and want to merge. Then Command-click all additional items to add them to the selection.

3 Choose Modify > Link, or press Command-L, to link these items together.



A line appears underneath the name of each selected clip to show they are linked together.

NOTE ▶ If you do not link the clips you want to merge before performing the next step (dragging them into the Browser), each item will be duplicated in the Browser separately.

4 Drag the linked clips from the Timeline to the Browser and release them.

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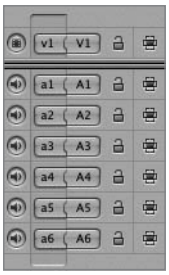
A new merged clip appears in the Browser, named after the topmost video or audio item in the Timeline.

5 Double-click this clip to open it in the Viewer.

An audio tab appears for each audio source you attached and merged with the video clip. You can mark this clip and edit it as though it were a single clip.



In the Timeline, a source control appears for every audio track in the merged clip.

NOTE ▶ When you create a merged clip, it becomes a new master clip, with no affiliation to the clips from which it was created.

To create a merged clip in the Browser:

Before merging clips in the Browser, you need to set a sync point for each clip, using all the clip's In points, Out points, or timecode. You can sync to an Aux timecode as well. The following steps outline the process using In points:

1 In the Viewer, open the video clip you want to synchronize.

2 Set an In point as a sync reference point, such as where the clapper on a slate closes.

3 Open each audio clip you want to merge into the Viewer, and repeat steps 1 and 2.

If no In points are selected in the audio clips, the sync point will default to the first frame in the clip. Likewise, if you use an Out point for your sync reference in your

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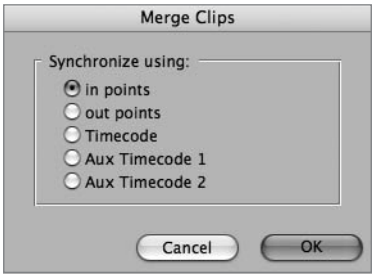
video clip, and your merge clips do not have an Out point, the last frame of that clip will be used as a reference.

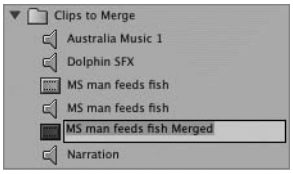
4 In the Browser, select all the synchronized clips you want to merge.

5 Choose Modify > Merge Clips. You can also Control-click one of the clips and choose Merge Clips from the shortcut menu.

6 In the Merge Clip dialog that appears, select a method to synchronize the clips. For this example, select In Points and click OK.



In the Browser, a new clip appears under the video clip. The merged clip is named after the video clip and includes the word *Merged* in the name.



TIP When capturing audio for use in a merged clip, make sure that your audio deck is synchronized to your computer via a common video timing signal. If your audio deck is not connected this way, the sync between the audio and video portions of merged clips can drift over time.

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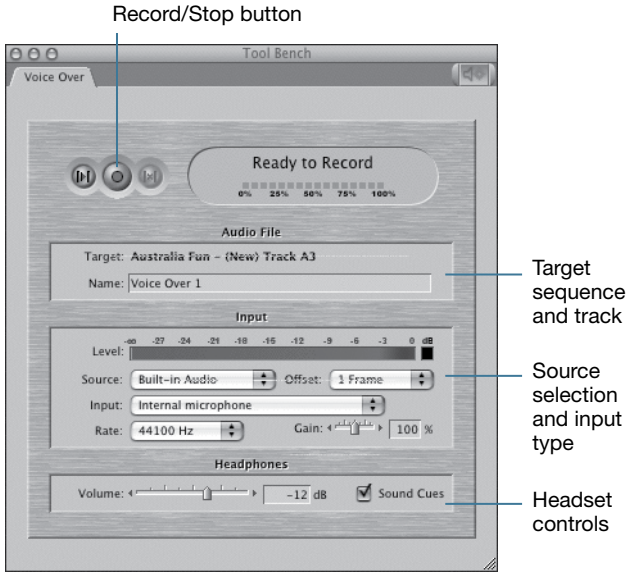
Adding Voiceover

In Final Cut Pro, the Voice Over tool provides the same basic scratch track narration capability that Avid's Punch-In tool does. When you select the FCP Voice Over tool from the Tool palette, it opens a Tool Bench window on top of the Viewer. You can move the window by dragging the title bar, or pull the Voice Over tab away to make it a separate window.

Avid Punch-in tool



FCP Voice Over tool

To record a voiceover:

NOTE ▶ The voiceover function records mono audio on only one track at a time.

1. To practice delivering the narration track, play the sequence and speak into the mic. You can track your audio levels in the Voice Over window.

2. Either mute your speakers or toggle off the Audible controls for any tracks you do not wish to record through your mic.

3. To record, click the red Record button. There will be an audio countdown to prepare you. Begin recording when the recording light turns on.

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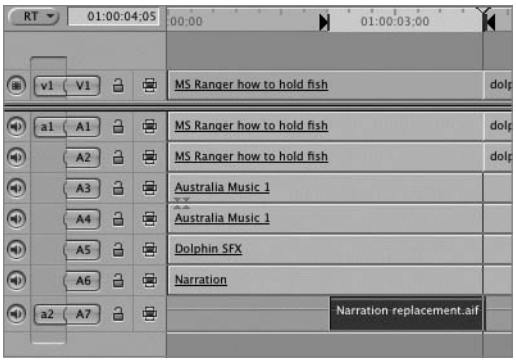
4 To stop recording, click the black Stop button. (After you begin recording, the Record button changes to a black Stop button.)



The recorded track is saved in the Capture Scratch folder of your scratch disk. (Check your scratch disk designation in the System Settings window.)

NOTE ▶ You can import and export a voiceover file just like any other audio file. You can also drag the clip from the sequence into the Browser, rename it, and use it again.

NOTE ▶ Real Time Audio Suite (RTAS) plug-ins can be applied to entire tracks in Avid 5, whereas FCP audio effects are applied to an individual clip or group of clips. While you can nest FCP audio clips on a track and apply a single audio filter to the nest (like collapsing layers in Avid), this isn't the equivalent of applying an RTAS plug-in to an entire audio track. However, by sending the sequence to Soundtrack Pro, which is included in the Final Cut Studio suite, you have access to a full range of high-quality Logic plug-ins that can be applied and adjusted exactly like the RTAS plug-ins in Avid or Pro Tools. For more information on applying Audio Filters, see Lesson 9. For more information on Soundtrack Pro, see *Apple Pro Training Series: Sound Editing in Final Cut Studio*, published by Peachpit Press.

What You've Learned

- Final Cut Pro and Avid handle audio in similar fashion, but FCP can have 99 Timeline audio tracks.
- The FCP Viewer has a separate tab or tabs to display the audio portion of a clip.

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- You can show audio waveforms in the Timeline by choosing Sequence > Settings and selecting the appropriate option in the Timeline Options tab, by selecting that option in the Timeline Layout pop-up, or by pressing Command-Option-W.
- You can expand your Timeline tracks as a group or individually to more clearly see the sample plot.
- You can toggle the audio of a Timeline track off or on by clicking the Timeline Audible control.
- You can disable or enable the audio of a sequence clip or clips by Control-clicking the clip or clips and choosing Clip Enable from the shortcut menu.
- You can solo a clip, more than one clip, or an entire track by selecting the clip, clips, or track, and choosing Sequence > Solo Item, or by clicking the Solo button in the Timeline audio controls.
- You can scrub audio with the playhead or the shuttle control; you can turn off audio scrubbing by choosing View > Audio Scrubbing, or pressing Shift-S.
- You use the drag hand in the audio tab to edit an audio-only clip to the Timeline or drag it to a Canvas overlay.
- To isolate one or more audio or video tracks, you can make a portion of the Timeline static.
- In the Viewer, adjust audio levels by moving the Level slider, entering a numerical value in the dB box, or dragging a pink overlay line up or down.
- When you toggle on the Clip Overlay icon in the Timeline, a pink volume level overlay appears on the sequence clips. Drag the line up or down to adjust the gain amount.
- You can adjust the audio level or pan of a clip or clips by selecting them and choosing Modify > Audio to select a fixed amount. You can choose Modify > Levels to set levels in the Gain Adjust dialog.
- You can unpair or re-pair the links between audio track stereo pairs by choosing Modify > Stereo Pair.
- Linked video and audio tracks can be unlinked by toggling the Linked Selection control in the Timeline button bar.
- Option-clicking a clip's video or audio track will temporarily override the link between the tracks.
- You can lock all audio tracks except one by Option-clicking a Lock Track control. Then click the Lock Track control for that one track to lock it as well.

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- You can toggle on and off the link between a selected video track and its audio by choosing Modify > Link.
- If red out-of-sync flags appear, you can accept the out-of-sync status by choosing Modify > Mark in Sync, or you can restore the original sync status by Control-clicking the red out-of-sync indicator and choosing an option from the shortcut menu.
- You can create and delete keyframes with the Pen and Pen Delete tools or by using the default Selection tool and holding down the Option key.
- You can modify a keyframe up or down to change levels, or right or left to change placement.
- FCP has an Audio Mixer, which you can customize to display up to 99 tracks for mixing or viewing. Also, you can save the track layouts in one of four Audio Mixer presets.
- The Audio Mixer can create keyframes automatically as faders are adjusted.
- The FCP merge clip function enables you to add up to 24 tracks of audio to one video clip, which can then be treated as a single clip. When dragged to the Browser, it appears as a new master clip.
- The FCP Voice Over tool is similar to Avid's Punch-In tool to record a basic scratch track narration.

Keyboard Shortcuts

Option-4	Open or close the Audio Meters window
Command-Option-W	Display Timeline audio waveforms
Control-S	Solo a selected clip or clips
Control-B	Toggle Clip Enable for a selected clip or clips
Shift-S	Toggle audio scrubbing on or off
Command-Option-L	Open the Gain Adjust dialog
Control-+ or Control-– (plus or minus)	Adjust gain up or down 1 db
Control-[or Control-] (left or right bracket)	Adjust gain up or down 3 db

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Keyboard Shortcuts

Control-, (comma)	Change pan to left, or pan sound to left channel
Control-. (period)	Change pan to center, or pan sound to center channel
Control-/ (slash)	Change pan to right, or pan sound to right channel
Command-L	Toggle off and on the link between selected video and audio tracks
Option-L	Unpair or re-pair a stereo link between audio tracks
Shift-L	Toggle off and on the Linked Selection control in the button bar
P	Choose the Pen tool
PP	Choose the Pen Delete tool
Option-6	Open the Audio Mixer

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9

Goals

Explore FCP effects

Add and modify transitions

Use the Transition Editor

Change and copy transitions

Apply alpha transitions

Apply and edit clip effects

Create effect templates

Copy and paste attributes

Render and preview effects

Apply Superimpose effects and comp modes

Keyframe effects in the Viewer and Timeline

Create a travel matte

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Lesson **9**

Transitions and Effects

Like Avid, Final Cut Pro has numerous transitions and effects. In Avid, you select these from the Effect palette or the Effect tab in the Project window; in FCP, you choose them from a dedicated Effects tab in the Browser, or from the Effects menu. Similar to Avid's transitions and segment effects categories, FCP organizes its effects into transitions and filters. (Motion effects to zoom or rotate an image are found elsewhere, and are covered in Lesson 10.) Transitions are applied to edit points between clips. As with Avid segment effects, you apply FCP filters—such as keys, flops, or mattes—to the body of the clip. And like Avid 5, where you find the RTAS Audio filter tools in the Effects palette, FCP includes audio transitions and filters alongside video transitions and filters.

Final Cut Pro provides some interesting filter and transition effects. In addition to the basic transitions, wipes, and keys it shares with Avid, FCP offers effects such as travel mattes to create iPod commercial–like comps, loads of 3D effects, two different garbage mattes, and a package of image controls and composite modes that follow the approach of Adobe's Photoshop and After Effects. New to FCP 7, you can also create dramatic effects by applying alpha transitions.

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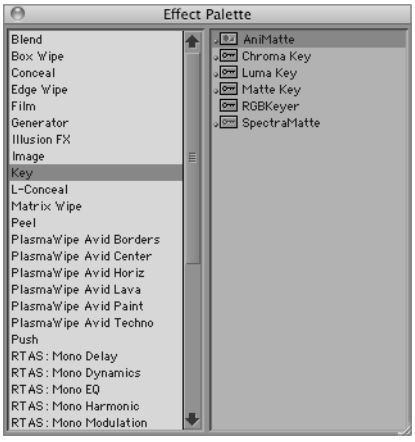
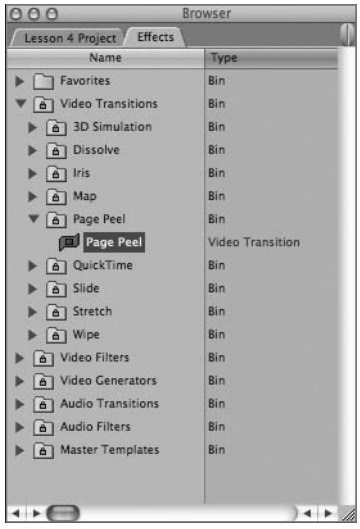
In addition to the filters just mentioned, FCP has several color-corrector filters, which give you real-time color correction for finishing and completing your project right in FCP. These filters, along with other finishing options, are covered in Lesson 14.

Exploring Effects

In Avid, all of the system's transition and effect options appear in the Effect palette. In Final Cut Pro, you can choose effects from category folders in the Effects tab in the Browser and also from the Effects menu. There are six categories of FCP effects: Video Transitions, Video Filters, Audio Transitions, Audio Filters, Video Generators, and Master Templates. All but the Video Generators can also be accessed from the Effects menu as a submenu. Video Generators and Master Templates are discussed in Lesson 11.



Avid Effect palette



FCP Effects tab

Effects Tab and Effects Menu

An Effects tab is always present in the FCP Browser (if you closed the Effects tab, you can reopen it by pressing Command-5). Whether you're working with one project open or several, all projects draw from the same palette or bin of effects, just as Avid draws from the same Effect palette. In the Effects tab, there are separate folders, also referred to as bins, for each effect category. There is also a Favorites bin, in which you can save customized effects.

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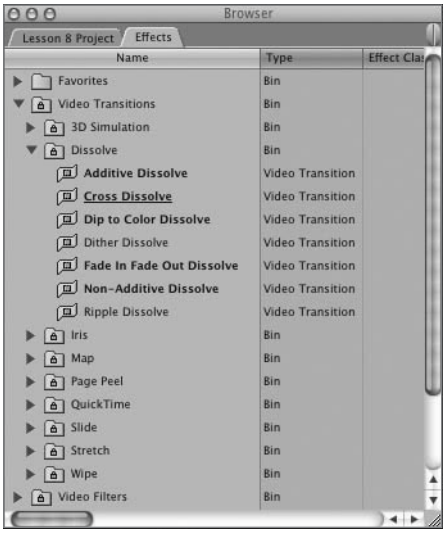
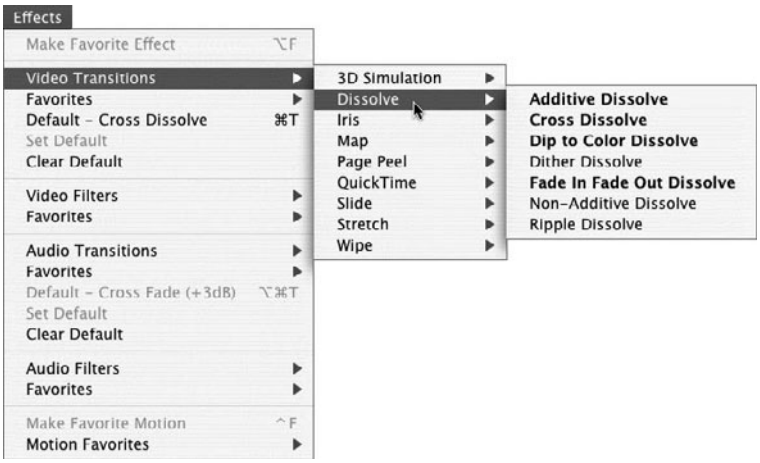


Each category has its own set of bins or submenus from which to choose. For example, displaying the contents of the Video Transitions bin and then the Dissolve bin offers the same options as if you chose Effects > Video Transitions > Dissolve.



Real-Time Effects and Render Control

Editors coming from Avid systems are familiar with its rendering options, including Render at Position, Render In to Out, and Render on the fly. Similar capabilities can be found in FCP. Avid editors also use Expert Render, a way to optimize selected effect sections and render only those effects needed for smooth Timeline playback. FCP has

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a similar mechanism, allowing you to pick and choose which kind of effect should be rendered—by color—from the Sequence menu. The goal of these features is the same: to leverage your system power, and to save you render time and storage space.

FCP has the capability of playing numerous effects in real time without having to render them. Real-time transitions appear as boldface type either on the Effects tab or in the Effects menu. In addition, FCP allows for one default video transition and one default audio transition, which appear underlined in the Effects tab and can be quickly applied in several ways. Changing a default transition is covered later in this lesson.

The number of real-time effects you have available to you will depend on your computer power and the render settings you choose. As you edit, you can choose to see as many effects play in real time as possible, with the possibility of frames dropping along the way. You can also play at a reduced image quality and/or frame rate. Or you can choose to see every frame and a higher-quality image, or combinations of each. You can make this choice on the System Settings > Playback Control tab, but it's easier to access these settings directly in the Timeline.

To adjust playback control:

Do one of the following:

- To have access to the greatest number of real-time effects in your Timeline, click the RT pop-up menu in the upper left of the Timeline and choose Unlimited RT. Click it again and choose Dynamic under Playback Video Quality. Click it again and choose Dynamic under Playback Frame Rate.

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- To see your effects play with absolute frame accuracy, click the RT pop-up menu and choose Safe RT. Some effects will require rendering with this setup.

TIP Experiment with different combinations under the RT menu to see which options give you the most real-time effects as you preview.

Adding Transitions

Both Avid and Final Cut Pro use the drag-and-drop method to place a transition effect directly on an edit point in the Timeline. While Avid has a Quick Transition button, FCP has Add Video Transition and Add Audio Transition buttons, which you can include in the Timeline or Canvas button bar. In addition, FCP uses powerful keyboard shortcuts, shortcut menu options, and additional drag-and-drop functionality to place and modify a dissolve or other transitions. You add audio cross fades to clips the same way you add video dissolves. And if you are an "avid" keyboard enthusiast, you'll find that default transition operations can be applied to video or audio edits without leaving the keys. However, you won't find an option to "Add and Render" an effect in FCP as you will in Avid. You will find several approaches to applying a single transition to multiple edit points at one time.

Avid Quick Transition button

FCP Transition button in Timeline button bar

TIP To add a button to the FCP button bar, open the Button List by pressing Option-J, or choosing Tools > Button List, and following the steps outlined in Lesson 3.

To add a transition to a single edit point:

When using the Effects menu to add a transition in the Timeline, you must first target the edit point between the two transitioning clips. This is not required, however, if you are dragging an effect from the Effects tab options. Either approach yields the same results.

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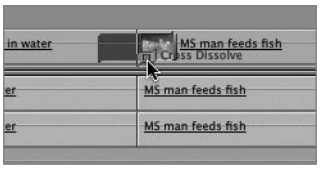
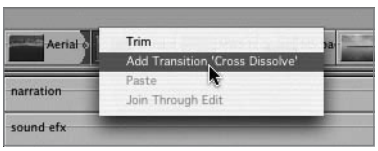
To apply a transition directly to the Timeline*, do one of the following:*

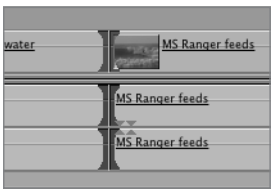
- To apply a dissolve from the Effects tab, display the contents of the Dissolve bin in the Effects tab and drag the Cross Dissolve transition to the desired edit point. The same process is used to apply a transition to any single edit point.



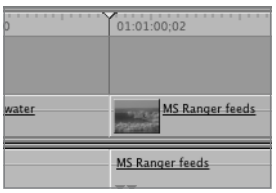
- Control-click the edit point in the Timeline and choose Add Transition '*Default Transition*'.



To add a dissolve or transition from the Effects menu, or to use a keyboard shortcut, first target the edit point by selecting it or placing the playhead directly on it, and then *do one of the following:*



Edit point selected



Playhead targeting edit point

- Choose Effects > Video Transitions > Dissolves > Cross Dissolve.
- Press Command-T to apply the default video transition, or press Command-Option-T to apply the default audio transition.

If you added an Add Video or Audio Transition button to the Timeline or Canvas button bar, click that button.

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To apply a transition to multiple edit points:

New to Final Cut Pro 7, you can add global transitions by applying a single transition to multiple edit points, just as you can in Avid. To do this, you can use the shortcut keys, the Effects menu options, or the Effects tab drag-and-drop method. Your first step is to target the clip or group of clips to receive a transition. When applying global transitions, you have many ways you can do this.

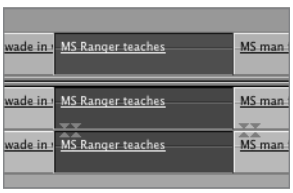
1 To select a group of target clips in the Timeline, *do one of the following*:

- Select a single clip.
- Drag a selection rectangle around a group of clips.
- Shift-click contiguous clips to select them; Command-click non-contiguous clips.
- Use one of the track selection tools to select clips on one or more specific tracks.
- Mark an area of the Timeline using an In point, an Out point, or both. Turn Auto Select on for each track you want to receive the transitions.

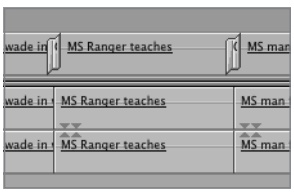
NOTE ▸ When a single clip is selected, the default transition will be applied to both the head and tail of the clip at the same time.

2 To apply a transition to the selected clip or group of clips, *do one of the following:*

- Press Command-T to apply the default video transition.



Single clip selected in the Timeline



Transition applied to head and tail of selected clip

- Press Command-Option-T to apply the default audio transition.
- Choose Effects > Video Transitions > Dissolves > Cross Dissolve.
- Choose Effects > Audio Transitions > Cross Fade (+3dB).

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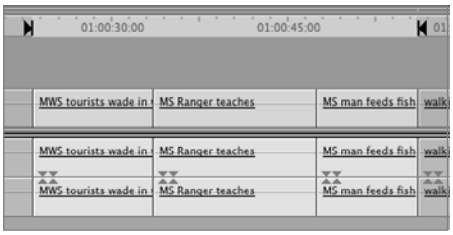
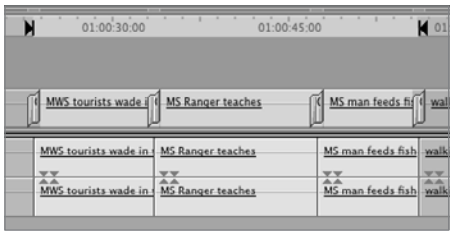


Group of clips selected with In and Out points



Video transition applied to edit points within selected area

TIP If you used edit points to select a group of clips, the edit points will remain after you apply transitions. Press Option-X to remove any In and Out points.

3 To apply a transition by dragging it from the Effects tab, select the target clip or clips without using edit points. Then drag the desired transition from the Effects tab onto the body of the selected clip or clips, and not directly on the edit point.

Modifying Transitions

If you like using keyboard shortcuts to apply transitions but don't want to apply the current default transition, you can easily change the default transition option. And once you've applied a transition to an edit point, you can modify it by changing its duration or alignment.

To change the default transition:

The default transition responds to shortcut keys and toolbar buttons for creating and placing transitions, and to another transition option called Edit with Transition, covered in the next section. You can designate only one default video and one default audio transition at a time, although FCP also assigns keyboard shortcuts to your top four favorites in each category (video and audio).

NOTE ▸ An additional five shortcut keys are unmapped but available to place a full transition keyset at your fingertips.

1 In the Browser Effects tab, select the transition you want to set as the default transition.

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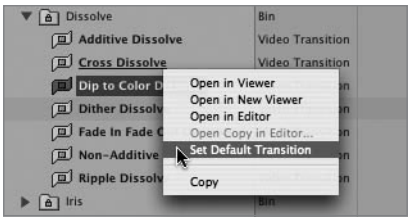
2 *Do one of the following:*

- Choose Effects > Set Default.
- Control-click the transition in the Effects bin and choose Set Default Transition from the shortcut menu.



TIP Discover keyboard shortcuts for your favorite transitions by choosing Tools > Button List (Option-J) and entering "transition" or "favorite" in the search field. You can also find every available FCP 7 shortcut in the iKeysToGo for FCP 7 iPhone application available on iTunes: http://itunes.apple.com/us/app/ikeystogo-final-cut-pro-7/id329947097?mt=8.

To position a transition on a clip:

In Avid you invoke the Quick Transition window to select and align a transition to a cut. In FCP, you position a transition as you place it, or use commands to alter alignment after placing the transition. An FCP transition can be positioned at the end or beginning of a clip, or between two clips. Instead of Avid's Ending on Cut, Centered on Cut, and Starting on Cut terminology, FCP uses End on Edit, Center on Edit, and Start on Edit. You can position a transition before you release it onto the clip or edit point. Or you can change positioning via a shortcut menu or keys after the transition has been placed.

Do one of the following:

- When dragging a transition to an edit point, position it left, right, or center before releasing it. You will see the left, center, or right side of the cut highlighted.

End on Edit

Center on Edit

Start on Edit

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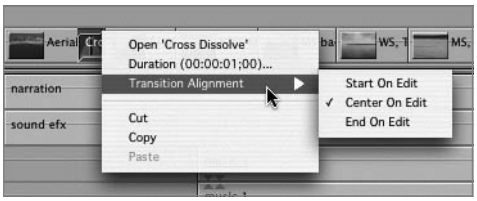
- Control-click the current transition and choose one of the Transition Alignment options from the shortcut menu.



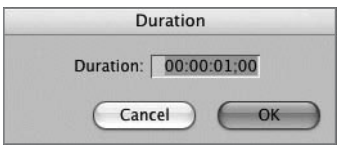
- With the transition selected, press Option-1, -2, or -3 for Start on Edit, Center on Edit, or End on Edit, respectively.

  The transition will be placed as long as there is enough material or handles to cover the transition.

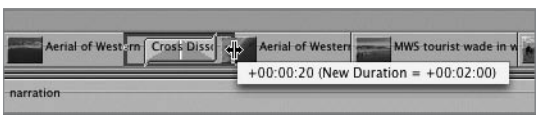
To modify transition durations:

Do one of the following:

- Control-click an existing transition in the Timeline. Choose Duration from the shortcut menu. When the Duration dialog appears, enter the transition duration you want and click OK.



- Select the transition and press Control-D to open the Duration dialog. Enter the new duration and click OK.
- Drag the edge of the transition left or right to make it shorter or longer.



- To delete a transition, select it and press Delete.

TIP In FCP, you can trim the edit points beneath a transition by applying the Roll or Ripple tool on the edit point, or by double-clicking the edit point to open the Trim Edit window. The transition will remain intact. You can also Option-roll an edit point with a transition attached to get an asymmetrical transition placement as you do in Avid.

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Editing with Transitions

While Avid 5 offers Transition Effect Preservation during Timeline cutting and pasting, Final Cut Pro has a unique capability to add any transition you choose while you are first editing the clip into the Timeline. This is a great way to save time if you are editing several clips that you want to begin with a particular type of transition. You can do this in both the Overwrite and Insert edit modes.

To create an edit with a transition using Edit Overlay:

1 If you want to use a transition other than the FCP default Cross Dissolve, set your chosen default transition before continuing.

2 Mark your edit points in the Viewer window.

3 Drag the clip into the Canvas window. The Edit Overlay options appear.

Next to the Overwrite option is a red box that says "with Transition". This Overwrite icon has stripes representing a transition effect. There is also an Insert with Transition option.

4 Drop the clip on the appropriate edit choice.

In the Timeline, the clip will appear with the default transition at the beginning of the clip.

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To create an edit with a transition using the Canvas edit buttons:

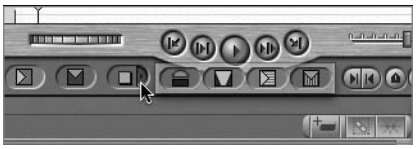
1 Mark your clip in the Viewer.

2 *Do one of the following:*

- Drag the clip to the buttons beneath the Canvas play keys. Move your pointer over the blue Replace icon. An additional group of edit icons appears. Slide over and drop the clip on either the red Overwrite with Transition icon or the yellow Insert (Splice) with Transition icon.

- Press Shift-F9 for Insert with Transition or Shift-F10 for Overwrite with Transition, if you have redirected your Mac OS X Exposé keys.

TIP To change the default blue Replace button in the lower left of the Canvas, click it and then choose one of the additional edit options. Do this with your default Selection tool and without dragging an image.



Using the Transition Editor

In Avid, you use the Quick Transition window to make changes to a dissolve or the Effect Editor to make changes to effects with additional parameters. In Final Cut Pro, you can make some changes to transitions directly in the Timeline using the Control-click method discussed earlier. To make those adjustments and control additional transition parameters, such as for wipes, you open the transition from the Timeline, just as you would open a clip. This is where the FCP Viewer begins to take on a more robust role, letting you do more than just view source material.

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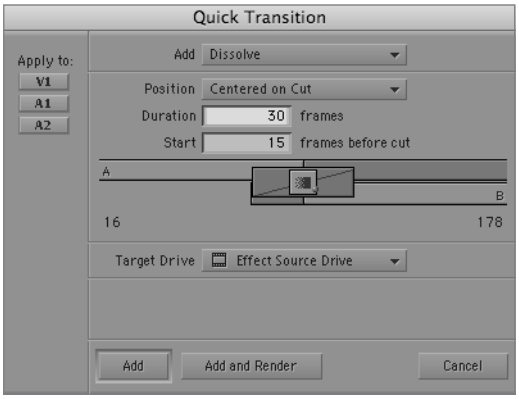


Avid's Quick Transition window

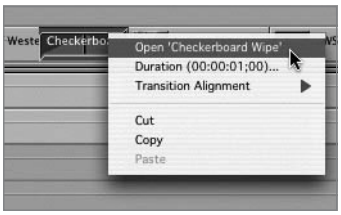
To open the Transition Editor:

After applying any type of transition (such as a dissolve, wipe, or page turn) to an edit point, you can access the Transition Editor in two ways.

> **NOTE ►** Audio transitions are created, deleted, copied, and modified in the same way as video transitions. However, they do not open in the Transition Editor as video transitions do.

Do one of the following:

- Control-click the transition and choose Open '*Type of Transition*' from the shortcut menu.



- Double-click either side of the transition.

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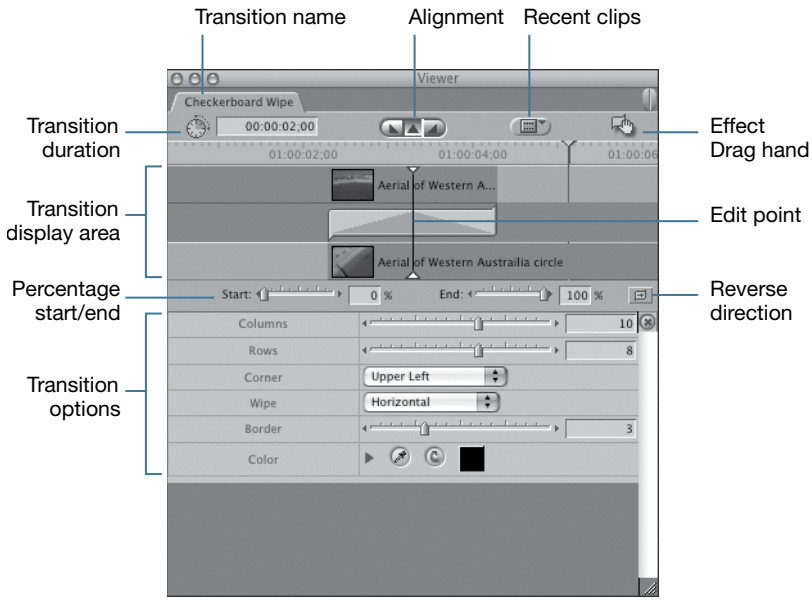
NOTE ▶ Remember that double-clicking an edit point will open the Trim Edit window. Make sure you double-click one side or the other of the transition, and not on the edit point itself.

When the Transition Editor opens, the transition name appears on a tab in the Viewer, along with the options that are available for that transition.

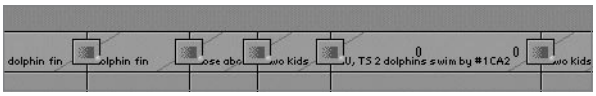
Any change you make in the Transition Editor window is active immediately in the Timeline. If rendering is required, that is done in a separate step (discussed later in this lesson).



FCP Transition Editor

Changing and Copying Transitions

Avid makes it easy to apply transitions to a group of selected clips in the Timeline at one time. Final Cut Pro 7 handles multiple transitions identically. Also, once a transition has been placed in an FCP sequence, there are several ways to swap that transition for a different one, align it, copy it, or move it to another edit point.



Avid multiple dissolves

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FCP multiple dissolves

To swap transitions:

Swapping the selected transition for a different one will replace the previous transition type but maintain the duration and alignment properties.

1 Park the playhead over the transition.

2 *Do one of the following:*

- Select the transition and choose Effects > Video Transitions and the transition you want.
- Select the Effects tab in the Browser and choose a different transition from the Video Transitions bin. Drag and drop the new transition on top of the current one.

- Use the following keyboard shortcuts to navigate through the Effects tab folders, select the desired effect, assign it as the Default Transition, and apply it to a selected edit point.

  Up Arrow—Select the previous bin or item at the same level.

  Down Arrow—Select the following bin or item at the same level.

  Right Arrow—Open the selected bin or step into the next level.

  Left Arrow—Step out to the higher level or close a selected, open bin.

  Control-T—While not an FCP default shortcut, you can map the Set Default Video Transition command to this location and use it to make a selected transition the default.

  Command-T—Apply the default transition to the selected video edit point.

  Option-Command-T—Apply the default transition to the selected audio edit point.

  Command-5—Open or bring to the front the Effects tab of the Browser.

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To move or copy transitions:

You can move or copy a transition using the drag-and-drop approach or keyboard shortcuts. Of course, you place a transition only if there is enough material (or handles) between the two new clips to create a transition.

- To move a transition, drag the transition and release it onto a different edit point.

To copy and paste a transition to a different edit point, *do one of the following:*

- Option-drag a copy of the transition to another edit point.
- Select a transition, press Command-C to copy it, select another edit point and press Command-V to paste it; or Control-click a new edit point and choose Paste from the shortcut menu.

Working with Alpha Transitions

In Final Cut Pro 7, one of the Wipe transition options is the alpha transition. Rather than wipe from one image to another using a standard geometric design, FCP uses the alpha channel of an animated matte to transition from image to image. You can create your own animated graphic in Motion or experiment with several professional mattes by downloading them from the Apple website.

TIP To download a free set of nine Apple alpha transitions, go to http://support.apple.com/downloads/Alpha_Transitions. Once downloaded, import them into your project.

To apply an alpha transition:

1 In the Browser Effects tab, display the Wipe transition options. Drag the Alpha Transition icon to the desired edit point location.

NOTE ▶ If you want a transition to appear at both ends of a clip, drop the transition onto the middle of the clip and not on an edit point.

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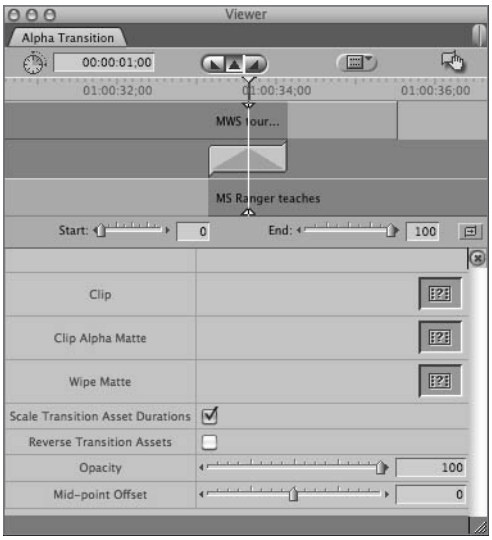
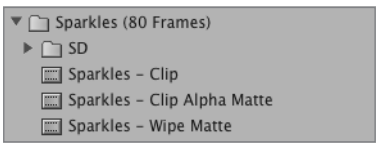
2 To open the transition in the Transition Editor, double-click the alpha transition in the Timeline.



In the Alpha Transition parameters, you have three wells where you can drop the clips—Clip, Clip Alpha Matte, and Wipe Matte—that make up the Alpha Transition effect.

3 In the Browser, find the elements you've created or downloaded. Each of the Apple clip elements is labeled according to its use: Clip, Clip Alpha Matte, or Wipe Matte.



Some alpha transitions contain elements for both HD and SD sequences. The SD elements are contained in a separate bin.

4 Drag each element into the well of the same name in the Alpha Transition parameters area.

5 Preview the effect.

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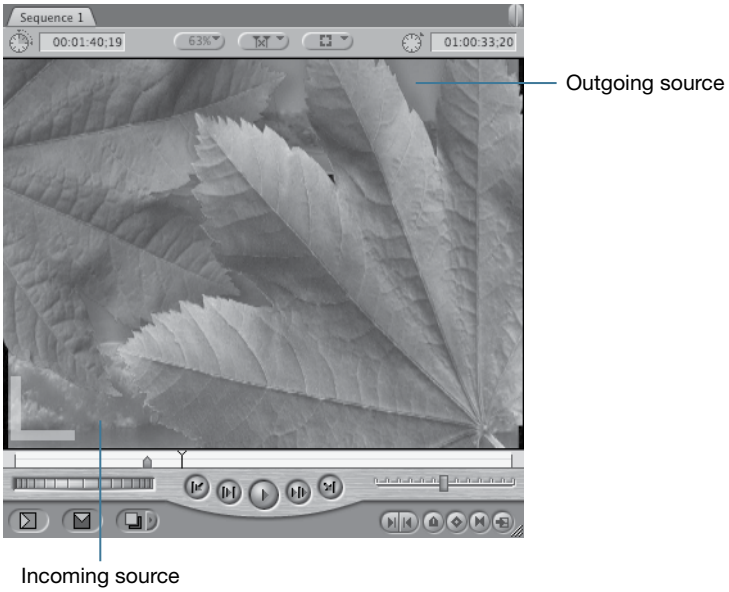
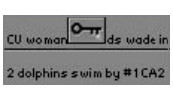
In the Canvas, with the playhead placed halfway through the transition effect, you see the clip image (leaves) wiping through two sources, hiding the outgoing source on the bottom of the image area as the leaves move through the screen revealing the incoming source on the top.



Applying Segment Effects (Filters)

What Avid calls segment effects, Final Cut Pro calls video filters. Both are the type of effect applied to the entire clip, as opposed to just the transition point. You'll find FCP video and audio filters in the Effects menu or on the Browser's Effects tab. FCP has a wide variety of video and audio filters but only one icon that represents them all. In FCP, you can apply a filter to a single clip, a group of clips, or a range of clips or material in the sequence. And just as Avid 5 has RTAS plug-in effects for audio tracks, FCP has many filters that can be applied to audio clips for various effects.



Avid effect applied to a clip

FCP generic effects icon

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NOTE ▶ If Final Cut Studio 2 or later is installed, Motion filters are available to apply in addition to Final Cut Pro filters. Motion effects can be identified by the FxPlug reference under the Effects Class column in the Effects tab of the Browser. To see all the Motion effects in FCP, Control-click in an empty area of the Effects tab and choose Show All Effects. If you want to remove the duplicate filter options, choose Only Show Recommended Effects. You can customize your selection by clicking the Preferred column for those effects you use frequently, and choosing Only Show Preferred Effects.

Working with Filters

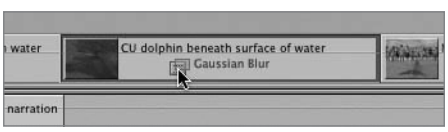
You can access video and audio filters just like transitions: from the Effects tab in the Browser, from the Effects menu, and from up to nine saved favorites, four already mapped to your default keyset. Use the Effects tab when you want to drag and drop a filter onto a clip, as you did with transitions. Also like transitions, to apply a filter from the Effects menu, first you must select a clip. You can apply filters to different target media:

- **Timeline clip—**Apply a filter to a sequence clip in the Timeline. In this case, that single use of the sequence clip is all that is affected.
- **Timeline clips—**Apply a filter to several selected clips in the Timeline, or to a range of material selected by the Range Selection tool, covered later in this lesson.
- **Master clip—**Just as in Avid, apply filters to a source clip in the Viewer. Do this only if you want future uses of this clip to have that filter or group of filters.
- **Sequence—**Apply a filter or group of filters to an entire sequence by creating a nest of the sequence and applying the filter to the nested sequence. Nesting is discussed in Lesson 10.

To apply a filter:

Do one of the following:

- Find the filter you want to apply from the Browser Effects tab, and drag and drop it onto the desired clip or selected group of clips in the Timeline.



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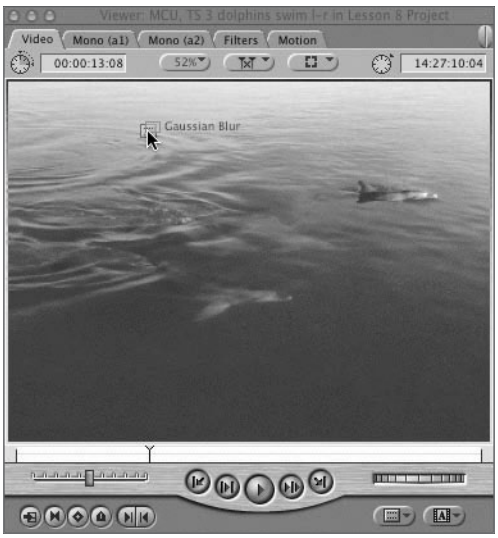
- When the pointer with the filter touches a clip in the Timeline, an outline appears around it and any other selected clips, indicating that the filter will affect them.

- When more than one clip is selected in the sequence, dropping the filter onto one will apply that filter to all selected clips in the sequence.

TIP You can apply several filters from the Effects tab at one time by Command-clicking the filters and dragging them to the target clips.

- With a clip or clips selected, choose Effects > Video Filters and select a filter.
- To apply an effect to a clip in the Viewer, double-click the clip from the Browser or in the Timeline. Drag and drop a filter from the Effects tab directly onto the image in the Viewer, or select a filter from the Effects menu while the Viewer window is active.



NOTE ► If more than one clip is stacked under the playhead, the filter will be applied to all video or audio clips at that location. To target your filter destination, either select the clip or clips you want to receive the filter, or turn off Auto Select for those tracks. Audio filters are applied in the same way as video filters.

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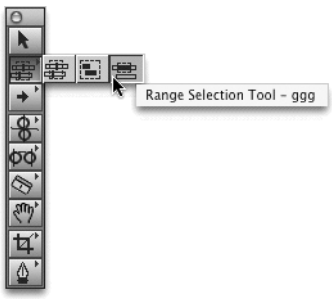
To select a range of material:

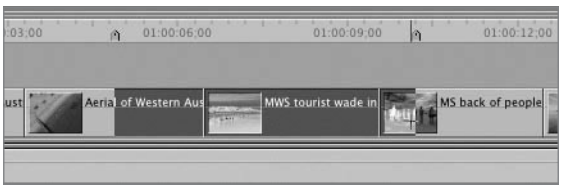
The Range Selection tool is found in the FCP Tool palette under the second tool, Edit Selection. When you choose the Range Selection tool, you can select one frame to another frame in a single clip, or between two or more clips on the same track. This is an excellent tool to use for making corrections to color, especially when you add keyframes to the filter. Keyframing filters is discussed later in this lesson.

1 In the Tool palette, click and hold the Edit Selection tool, and then slide over to the Range Selection tool. Or you can press the keyboard shortcut GGG.



2 If necessary, identify the frames where you want to begin and end the selection by parking the playhead at one of the locations, adding a marker, or setting In and Out points. The Range tool will snap to these points.

3 Inside the clip in the Timeline, drag the Range Selection tool left or right to select the desired material.



4 With the range of material selected, choose Effects > Video (or Audio) Filters > and select the appropriate category and filter.

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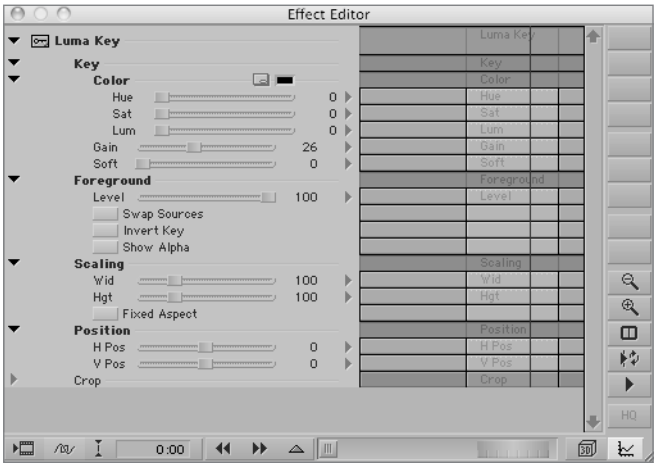
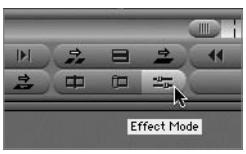
Modifying Filters

FCP filter parameters are viewed and modified in the Filters tab of the Viewer. Like Avid's Effect Editor, the Filters tab displays all applied filters to the opened clip, each filter's parameter settings, and controls to modify those settings.



Avid's Effect Editor

When you click the Avid Effect Mode icon, the Effect Editor window opens, and you can adjust the different parameters for the selected effect. In FCP, you access a clip's filter parameters by opening the clip in the Viewer and clicking the Filters tab.



Avid Effect Mode button

Selecting FCP Filters tab in the Viewer

FCP filters have controls for editing effects similar to Avid. There are sliders, numerical entry fields, degree wheels, and tiny adjustment arrows on either end of the sliders for fine-tuning the parameter settings.

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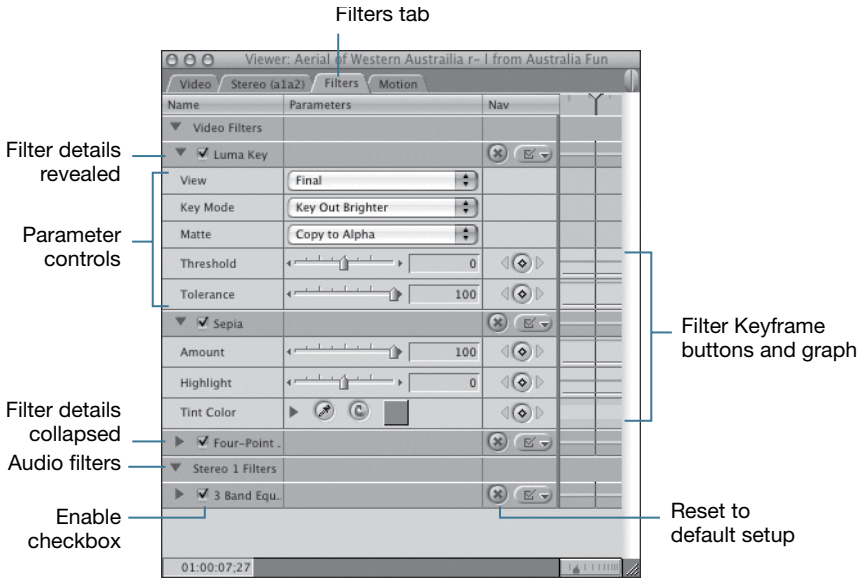

To view and modify filter parameters:

As mentioned before, you can apply a filter to a master clip in the Viewer or a sequence clip in the Timeline. If you apply a filter to a sequence clip, you must open it in the Viewer before you can make changes to its filter. When you select the Filters tab in the Viewer, you can no longer see the clip's image on the Video tab. But there are several ways you can view the filter parameters as you make your adjustments.

1 Make sure you have applied a filter to a clip in the Timeline.

2 Double-click the clip to open it in the Viewer.

Now you can use the Viewer Filter tab to modify your effect parameters as you would in Avid's Effects Editor.

3 To view the filter changes, *do one of the following:*

- Park the playhead over that clip in the Timeline; you will see the filter changes in the Canvas.
- Drag the Video tab away from the Viewer window. The Video tab becomes a separate window, and you can see the Viewer image as you change the filter parameters. This method is a good option for editing a master clip in the Viewer.

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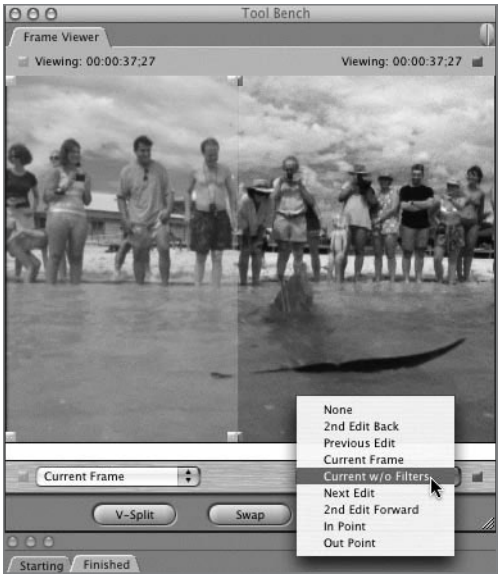
- Choose Tools > Frame Viewer, or press Option-7, to open a Frame Viewer window in the Tool Bench.



Viewing clip with Sepia filter applied

A Frame Viewer allows you to split the viewing area either horizontally or vertically between two images. You can choose the image options from the two pop-up menus in the lower portion of the window. For example, you could set one image for Current Frame and the other for Current w/o Filters, and see a side-by-side comparison of the clip with and without the filter. You can have several Frame Viewers open simultaneously comparing different clips in the Timeline.

4 Modify the parameters using the slider, adjust arrows, numerical entry fields, or any other options that may appear while monitoring their effect on the video in the Video tab, Frame Viewer, or Canvas window.

NOTE ▶ You apply and modify audio filters in the same way as video filters.

To remove a filter:

Do one of the following:

- In the Viewer Filters tab, select the filter name and press Delete.

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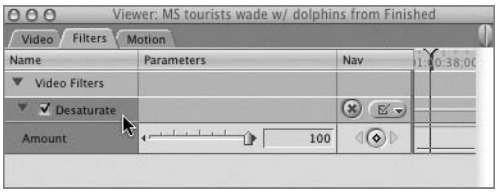
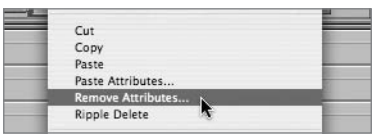


- Control-click the filter name and choose Cut from the shortcut menu.
- Control-click the clip in the Timeline, choose Remove Attributes, and select the Filters checkbox if it isn't already selected. Click OK.



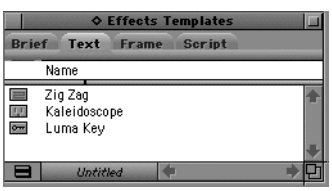
TIP You can change the order of filters by dragging the filter name above or below other filters.

Third-Party Filters

Several third-party companies produce filters that can be used in FCP. To work with third-party filters, place them in the Final Cut Pro Plugins folder by following this path: Macintosh HD > Library > Application Support > Final Cut Pro System Support > Plugins. They will appear as options in the Effects tab and Effects menu.

Creating Effect Templates

Avid makes it easy to save effects as templates. Final Cut Pro provides this ability but takes it one step further by enabling you to make an effect either a default or a favorite. On the Effects tab in the Browser, one of the folders is for Favorites. If you make changes to a filter or transition and want to have that modified effect readily available, you can save the effect as a template or favorite.



Avid bin with saved Effects Templates

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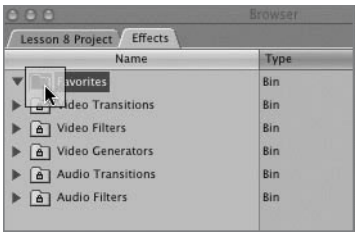
To save a favorite transition:

You can save your favorite filters and transitions in the Browser's Favorites bin on the Effects tab. A favorite effect can be a single filter or transition that you have adjusted to perfection, or a group of filters.

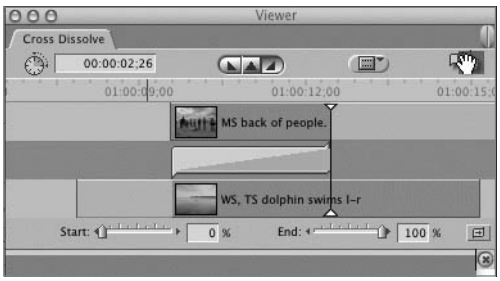
1 Make the changes you want to the favorite transition.

2 To save the transition, *do one of the following:*

- Drag the transition from the Timeline transition point to the Favorites folder and release it when the Favorites folder becomes highlighted.



- With the transition open in the Transition Editor, drag the Drag Hand icon to the Favorites folder and release it when it becomes highlighted.



- With the transition open in the Transition Editor, choose Effects > Make Favorite Effect, or press Option-F.

When you've saved transitions in the Favorites folder, you can also access them in the Effects > Favorites menu, or use keyboard shortcuts for the top four in each category, in the order they are listed in the Favorites bin.

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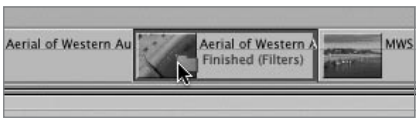
By default, pressing one of these four keys in combination with Control-Shift allows instant access to your top four favorite transitions.

To save a filter or group of filters:

Do one of the following:

- Drag the filter name from the Viewer Filters tab to the Favorites folder.
- To save a single filter or group of filters applied to a clip in the Timeline, park the playhead over the clip and choose Effects > Make Favorite Effect, or press Option-F. These two options also work for clips in the Viewer.

  When you use the Make Favorite Effect menu option, all the effects from that clip are saved in a folder titled after the sequence. To use these filters as a set, you can simply drag the entire folder onto another clip.



TIP Once you've saved filters in the Favorites folder, you can also access those individual filters via the Effects > Favorites menu or use keyboard shortcuts for the top four in each category, in the order they are listed in the Favorites bin.

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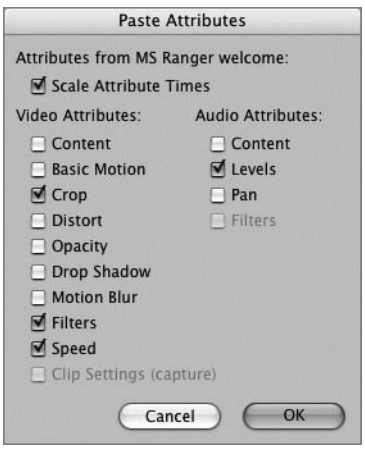
By default, pressing one of these four keys in combination with Control-Shift allows instant access to your top four favorite filters.

Copying and Pasting Attributes

As you have seen, it's easy to copy and paste entire clips from one location to another in Final Cut Pro, or copy transitions and paste them to another edit point. You can also paste specific video or audio attributes from one clip to another. Anything that you do to a clip to change it—such as applying an audio or video filter, changing its speed, cropping it, rotating it, turning it blue, or panning or adjusting the audio level—is considered an attribute of the clip, and can be copied and pasted to another clip. When you copy a clip, its attributes are copied along with it. Even the content is thought of as an attribute that FCP can paste.



FCP Paste Attributes dialog

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To copy and paste clip attributes:

The Paste Attributes dialog enables you to choose just those attributes that you want to paste from the copied clip to the new clip. Filters are listed together in a single group. Certain motion effects, which are discussed in Lesson 10, appear as separate attributes. You can also copy a clip and paste its attributes to a group of selected clips or a range of material.

1 Select the clip that has the attributes you want to use and press Command-C to copy it.

2 To open the Paste Attributes dialog, *do one of the following:*

- Control-click the clip to which you want to paste those attributes and choose Paste Attributes from the shortcut menu.

- Select a clip and choose Edit > Paste Attributes or press Option-V.

A Paste Attributes dialog appears with a list of all the audio and video attributes that can be pasted.

3 Select the checkbox beside each attribute you want to paste.

4 Click OK.

When you paste attributes into a clip, you are adding the copied filters to whatever filters already exist in that clip, not replacing them. However, speed and motion attributes will completely replace any other speed or motion attributes.

TIP To paste attributes into more than one clip, select the clips and paste as in the preceding steps.

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To remove attributes from a clip:
As in pasting attributes, you can also remove attributes from a clip by using the Remove Attributes dialog, similar to the Paste Attributes dialog.

1 Control-click the clip in the Timeline from which you want to remove attributes. You can also select all clips in the sequence. From the shortcut menu, choose Remove Attributes.

2 When the Remove Attributes dialog opens, click the attributes you want to remove and click OK.

Copying and Pasting Clip Content

The Paste Attributes function allows you to copy and paste a clip's content into an existing clip that already has effects. This is similar to stepping into a segment effect clip in Avid and overwriting a different source into the uncollapsed source video layer. This is a convenient way of *previewing* the same set of effects that are in the same location but applied to a different clip. The new clip assumes the attributes of the clip that is already there; all that changes, if Content is the only thing selected in the Paste Attributes dialog, is the media of the effects clip. To paste clip content, follow the steps for copying and pasting attributes, and choose Content in the Paste Attributes dialog.

Rendering Effects

There are two aspects to rendering: rendering effects in the current sequence so they will play in real time and managing those precompute or render files after they've been created. (Management of render files is covered in Lesson 13.) You approach rendering a clip or segments of your sequence in the same general way as you do with Avid, selecting a clip or setting In and Out points in the Timeline. While Avid indicates the need to render by using colored render dots that appear in the Effect Editor, on an effect in a sequence clip, or a bar in the timecode track, Final Cut Pro uses separate colored audio and video render lines that appear in the Timeline ruler area.

> **NOTE ▶** As with Avid, regardless of real-time capability during the editing or previewing process, your entire FCP sequence should be rendered at the highest quality for final export or Edit to Tape to guarantee the full resolution, synchronization, and color you've specified. Lesson 14 discusses exporting and outputting.

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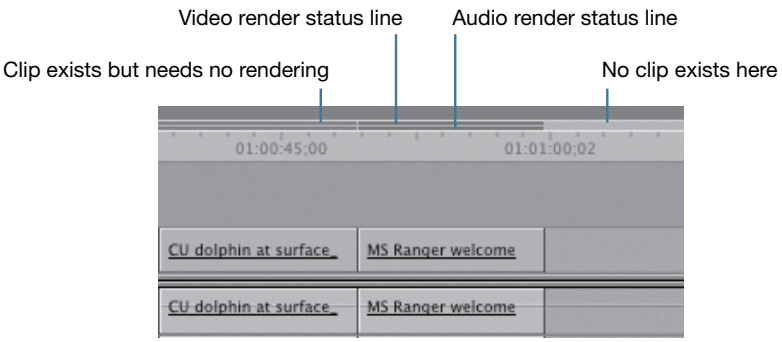
Avid render status dots

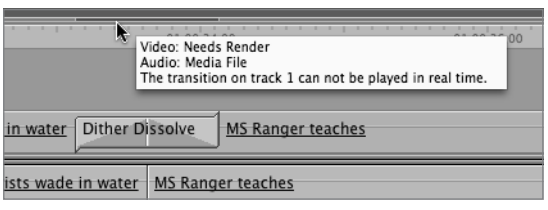
As outlined earlier in this lesson, you can choose Unlimited RT and a Dynamic playback from the RT pop-up menu to see the greatest number of effects play. Final Cut Pro has some additional functionality in this area. For example, you can choose to render a clip or segment at any one of the different render *levels*. However, FCP doesn't have email notification upon render completion as does Avid 5.

Render Status Lines

The render status area lies just above the timecode reference in the Timeline ruler area. The upper portion of the bar represents video render need, and the lower portion represents audio render need. When a clip is edited into the Timeline, a dark gray line appears in this area to indicate a clip is present in this location. When no clip is present, that area is left blank.



TIP To view the render status, hover your pointer over one of the render lines. A tooltip appears, indicating the render issue, track, and status.


Video: Needs Render
Audio: Media File
The transition on track 1 can not be played in real time.
in water
Dither Dissolve
MS Ranger teaches
ists wade in water
MS Ranger teaches

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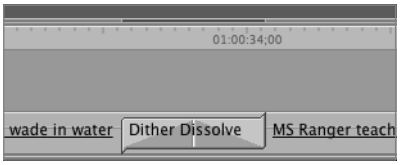
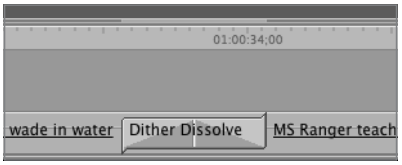
Render Levels

In Avid, color dots on effects segments indicate playback capability. For example, a green dot indicates real-time playback. In FCP, a green bar in the ruler indicates real-time playback. A red bar in Avid's timecode track means a render is required; in FCP, red also means rendering is required. Other colors represent various real-time playback possibilities and render needs. In the Timeline, one of several render status colors may appear over an entire clip, if a filter was added, or just over a transition. The render indications that appear are based on the current render settings in the RT pop-up menu. For example, an Unlimited RT setting in the Timeline may yield a green render bar over one clip with an effect, but changing the RT setting to Safe RT may turn the render bar to yellow, orange, or red, depending on the speed and power of your computer. While a red render bar, like a red stoplight, indicates the clip will not play unless rendered, the yellow and orange render levels offer play but with some loss of quality.



Effects with Safe RT chosen in the RT pop-up menu



Effects with Unlimited RT chosen in the RT pop-up menu

The colors that may appear on the render status lines are as follows:

- **Dark gray**—Indicates clip does not require rendering.
- **Steel gray**—Indicates clip or material has already been rendered.
- **Dark green**—Indicates a real-time effect capable of playback and output to video at full quality with no rendering required.
- **Green**—Will play in real time but not at full quality.
- **Yellow**—Transition can play in real time but may approximate certain attributes.
- **Orange**—When Unlimited RT is chosen, this effect may play back in real time, although normally it might exceed your computer's real-time capability.
- **Red**—A transition or effect needs rendering for viewing or playback.

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NOTE ▶ Depending on the processing power of your Mac, FCP can view four or more streams of real-time effects at one time. This means you can have at least four different clips with real-time effects applied, each clip on a separate track, and see the clips and effects play in real time. Of course, render settings also make a difference in the amount of real-time effects you can view.

Render Commands

The Final Cut Pro render commands appear on the Sequence menu, but like Avid, there are keyboard shortcuts for rendering as well. Before rendering, you choose what level of rendering you want from the Render submenu, and then you invoke the render command.

In the Sequence menu, there are two primary render commands. The first renders a selected clip, clips, or segment of your sequence identified by In and Out points. The second command in the Sequence menu enables you to render everything in the Timeline, regardless of In and Out points. You can also choose to render just the video or audio.

Render options in Sequence menu when a clip is selected in the Timeline

To render a clip or selection:

With rendering, the general rule of thumb is that you press Command-R to render selected items and Option-R to render everything in the Timeline.

1. To select the render target, *do one of the following:*
   - ▶ Select the clip or clips in the Timeline to render those clips.
   - ▶ Set In and Out points in the Timeline to render a segment.
2. From the Sequence > Render Selection submenu, choose the levels of rendering you want to include in the rendering process. For example, if there is an orange render level bar above an effect, that color render bar must be checked; otherwise, the effect will not be included in the render operation.

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Each chosen level will have a check mark to the left of the name.

TIP To have more Avid-like render options, in which all render levels are active, take the time to check each render level in the Render Selection submenu. When you do need to render, simply select the item to render, and press Command-R to render it. To approximate Expert Render, check all but Full and possibly Preview (the green render levels) in the Render All submenu. When you want to Expert Render, simply press Option-R to render all but the highest-quality real-time effects.

3 Choose Sequence > Render Selection again, and choose Both, or press Command-R, to render both the audio and video effects at the currently selected render level.

4 To disregard In and Out points or selected clips and render the entire sequence, select the appropriate render levels from the Sequence > Render All submenu, and then choose Sequence > Render All > Both, or press Option-R.

TIP In the User Preferences window, you can set FCP to render the current sequence, all opened sequences, or all but the current sequence in the Timeline automatically when you take a break. Before you activate this function, make sure you've set your render scratch disk in the System Settings window. FCP does not, however, have an email notification option as does Avid 5.

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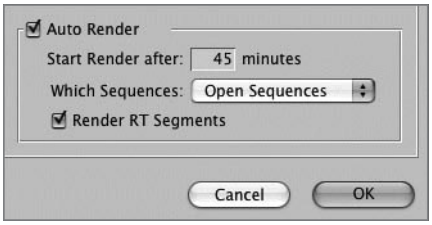

To preview effects:

Before rendering, there are other ways to view frames of your effect.

Do one of the following:

- Press the Left and Right Arrow keys to move through an effect one frame at a time.
- Hold down the Left or Right Arrow key to see the effect play in slow motion.
- Park the playhead before an effect and press Option-P to review the effect in slow motion.
- Choose Tools > QuickView, or press Option-8.

A QuickView tab opens within the Tool Bench window on top of the Viewer. This window or tab can be repositioned anywhere in the interface.

NOTE ► QuickView is a RAM preview tool that loads effects into RAM so you can preview them in real time without rendering. You can choose a length of time using the Range slider, or set In and Out points in the Timeline, Canvas, or Viewer to play In to Out.

FCP QuickView window

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Superimposing Clips

In Final Cut Pro, as in Avid, you superimpose a clip by placing one clip on top of another in the Timeline. In Avid, the Superimpose effect is added to the top clip for the purpose of altering opacity. You then step into the Effect Editor to tweak its opacity setting. In FCP, you can alter opacity simply and directly on the clip in the Timeline. Alternately, the FCP Superimpose is not an effect as it is in Avid; it is an edit type that appears in the Canvas Edit Overlay and edit buttons. Superimpose will edit a clip on top of an existing clip and conform the new clip to match the underlying clip's length and position, but it will not affect opacity on the top clip. You must change opacity in a separate operation.

Avid Superimpose effect applied to a clip

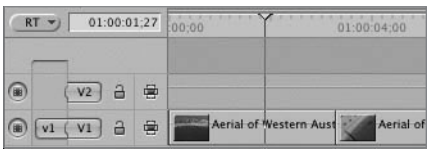
FCP opacity line being adjusted

To make a superimpose edit:

Superimpose looks to the playhead in the Timeline to identify the location of the base clip and refers to the source patching to identify the specific track. FCP will then superimpose a new clip on the track above the base clip, matching the base clip's duration. This type of edit is very effective for editing titles or lower thirds above another clip. It can also be used to build a composite image in which all clips need to be the same length and appear at the same location in the Timeline.

1 In the Timeline, park the playhead anywhere on the clip you want to use as the base clip.

2 Patch the v1 source control to the base clip's track.



3 Mark an In point in your source clip in the Viewer.

NOTE ▶ When you use the Superimpose function, if there is not an existing track for the new clip, one will be created automatically.

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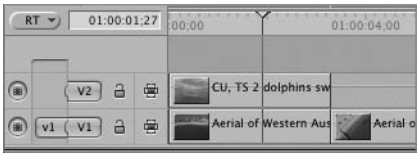
4 To make a superimpose edit, *do one of the following:*

- Drag the clip from the Viewer into the Canvas Edit Overlay and drop the clip onto the Superimpose option.
- Press F12.
- In the Canvas, click and hold the Replace edit button, and then slide over and select the Superimpose edit button. Once that button is matched to this location, click the Superimpose edit button to perform the edit.
- Drag the clip from the Viewer onto the Replace edit button in the Canvas. When the additional edit options appear, drop the image onto the purple Superimpose edit button.



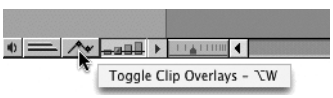
A new clip is superimposed on top of the base clip, and matches the base clip's length and position.

NOTE ► If another clip currently sits directly above the base clip, superimposing a new clip will bump up the current track (or tracks) and insert an entirely new track above the base clip. The superimposed clip will be added to the new track above the base clip.

To change opacity:

Once a clip is superimposed over another, you can change the opacity of the upper clip or set keyframes to create your effect. FCP makes changing the opacity of a clip simple and direct. As with audio volume overlays in audio clips, you must first toggle on the Clip Overlays control in the Timeline. When on, a black opacity overlay line appears on all video clips in the Timeline, as well as the pink audio overlay lines in the audio clips.

1 Toggle on Clip Overlays, or press Option-W.



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2 Move your pointer to the overlay line in a video clip. When you see the resize arrow, drag down.

TIP Hold down the Command key to gear down to more precise opacity adjustments.

A percentage amount appears, indicating the new clip opacity.

3 To set an opacity keyframe, do what you did when working with the audio overlay lines. Use the Pen tool (or Option-click) to set keyframes on the opacity line. Drag a keyframe down to decrease the opacity.

Adding opacity keyframes this way creates video fades. To create video transitions that have different rates going in and coming out, position two clips on separate tracks, and add fades of different rates to these clips.

TIP When placing a keyframe at the head or tail of a clip, it may be easier to place it inside the edge so you can select it and move it more easily. You can also toggle off snapping for greater control.

Keyframing Filter Parameters

In Avid, keyframing control is done in Effect mode, in a window that replaces the Composer and shows a Keyframe ruler you can populate. In Avid 5, some effects offer standard keyframing, while others offer an advanced keyframing control area. The FCP default keyframing features will remind you of Avid's advanced keyframes. For detail editing of keyframes in Final Cut Pro, you'll encounter something more like After Effects. You can keyframe filters in FCP by working directly with the sequence clip in the Timeline, by expanding the Timeline tracks and working in a keyframe editor area, or by opening a clip in the Viewer and making changes within the Filters tab. As in all keyframing, you need at least two keyframes to animate a filter. If you want to change a parameter but not animate it, you do not require a keyframe.

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To set keyframes in the Viewer:

To the right of each keyframable parameter in the Filters tab, there is a keyframe button. To the right of the keyframe button area is a Viewer timeline with a small playhead. This area is called the keyframe graph or time graph.

1 Double-click a clip in the Timeline to open it in the Viewer, and click the Filters tab.

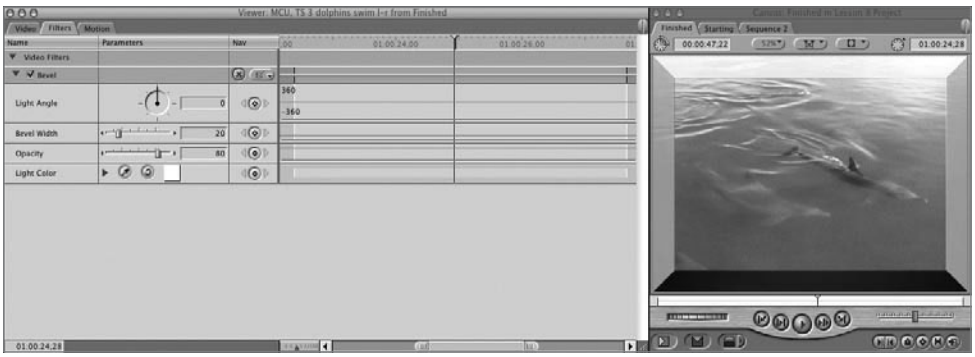
2 Apply a filter to the clip, if one is not already applied.

3 To see more of the Viewer keyframe graph, *do one of the following:*

- Drag the Viewer and Browser boundary to the left.
- Drag the entire Viewer window left to cover the Browser, and then drag the lower-right corner of the Viewer to expand it out to the Canvas.

The distinctive lighter area in the keyframe graph represents the clip length in the Timeline. The playhead position tracks the location of the Timeline playhead location. If you move one, the other moves in tandem. This allows you to define a keyframe location in the Timeline, and then set the keyframe in the Viewer.

TIP To quickly expand the keyframe graph area to its window width, press Shift-Z (Fit to Window).



TIP To see a really large keyframe graph area, drag the Filters tab from the Viewer into the Timeline tab area. When you see the black outline appear in the Timeline, release the tab. To return the Filters tab, drag it into the Viewer tab area, or Control-click the tab in the Timeline and choose Close Tab, and it's restored to the Viewer.

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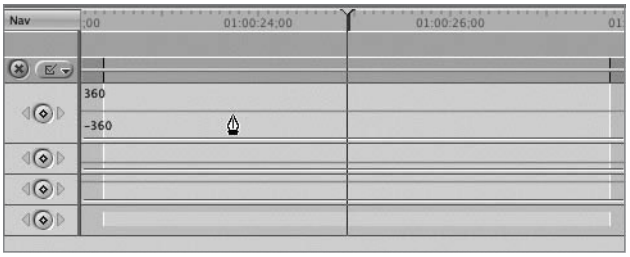
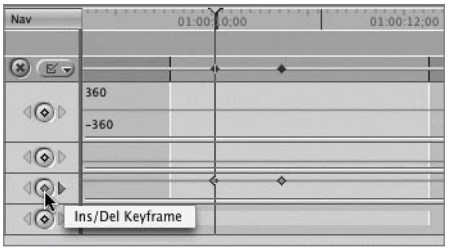
4 Move the playhead to where you want the first keyframe and *do one of the following:*

- Use the Pen tool (or Option-click) to set keyframes directly on the keyframe line in the Viewer timeline.



- Park the playhead on the keyframe graph and click the Keyframe button. This will add or delete a keyframe at the playhead position.



NOTE ▸ When the playhead is over a keyframe, the Keyframe button in the Filters tab changes from a hollow diamond to a solid green diamond.

5 Move the playhead to the next keyframe location and set an additional keyframe.

6 To move directly to a keyframe location, *do one of the following:*

- Click the navigation arrows on either side of the Keyframe button.
- Press Shift-K to go to the next keyframe or Option-K to go to the previous keyframe.

TIP To keep the wide Viewer configuration for future effects work, save it as a custom layout as detailed in Lesson 3.

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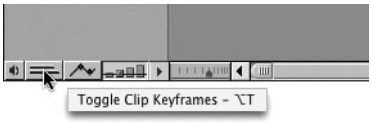
To set keyframes in the Timeline:

FCP has the unique capability of adding and modifying filter keyframes directly in the Timeline. As in toggling on Clip Overlays in the Timeline, you begin by toggling on Clip Keyframes to see and work with your keyframes.

1 Apply a filter to a clip in the Timeline.

2 In the lower left of the Timeline, click the Clip Keyframes control, or press Option-T.

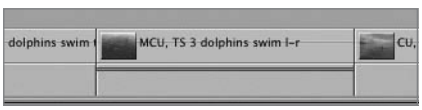


The Timeline tracks open to allow room for a keyframe editing area, which appears beneath each track in the Timeline. There are also vertical "ticks" in this area that represent clip motion (which are discussed in Lesson 10), as well as a separate filters and motion keyframe bar where those effects have been applied to a clip.

3 Control-click the Clip Keyframes button and choose Video from the shortcut menu.

TIP FCP defaults to having all the video and audio Clip Keyframes options on. To reduce the clutter to work only with the ones you need, you can choose Select None and add back the ones you want from the Video or Audio submenu. Or you can deselect one at a time those overlays you don't want to see beneath your clips in the Timeline.

4 Make sure that Video > Filters Bar and Keyframe Editor are both chosen from the Clip Keyframes shortcut menu.



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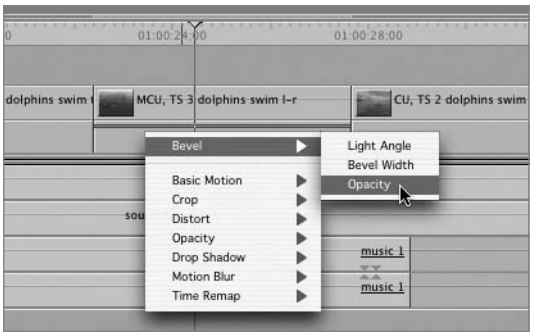
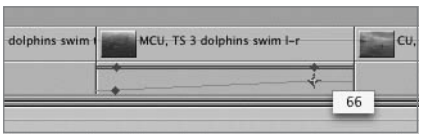
In the keyframe editing area, a green filter bar appears under any clip that has a filter applied to it. If you previously applied a keyframe to the filter on this clip, it will appear on the green bar as well.

5 To prepare to set filter keyframes, Control-click in the keyframe editing area beneath the green filter bar. From the shortcut menu, choose the filter you want to modify, and then from that filter's submenu, choose the specific parameter for which you want to set a keyframe.

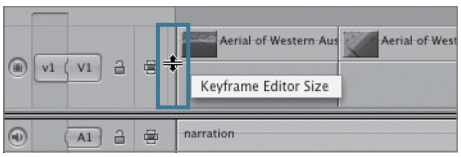


Beneath the green filter bar, a keyframe graph appears, similar to a clip overlay line.

6 Use the Pen tool (or Option-click) to add keyframes on the keyframe graph for this clip's filter. As before, drag the keyframe left, right, or up and down to modify its value or position.



TIP To change the height of a track's keyframe editing area, drag up or down in the Keyframe Editor Size column in the Timeline track control area, the tiny column just to the right of the Auto Select control.



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TIP With snapping enabled, you can scrub the playhead through clips in your Timeline and a snapping indicator appears at the clip baseline, revealing the location of filter keyframes you've already set.

Applying a Composite Mode

Included in the Final Cut Pro group of effects, although not found in the Effects menu, is a set of image-mixing options, or composite modes, that you can apply to any clip in and from the Timeline at any time. Photoshop-like composite modes are available only in special effects applied in Avid. If you have done any work in Adobe Photoshop or After Effects, or other desktop graphics programs, you may be familiar with composite modes. The FCP composite modes work the same as those used in Photoshop and After Effects, but FCP offers a few additional options.

FCP Composite Modes

A composite mode is a mathematical equation that determines how the luminance or chrominance of an image interacts with another image. A composite mode is applied to the clip on the upper track. That clip takes on the properties defined by the composite mode. The mode determines how the upper clip will act in relation to the clip immediately below it in the Timeline.

The following is a list of the composite modes available in FCP:

- **Normal**—Displays the clip without any changes.
- **Add**—Combines the color values of the clips. The resulting image is lighter. The added values can exceed absolute white.
- **Subtract**—Subtracts the color values of the clips. The resulting image is darker. The subtracted values cannot fall below absolute black.
- **Difference**—Subtracts the color values of the underlying clip from the selected clip. The result is the difference in the two images.
- **Multiply**—Compares the color values for each pixel in the clip with those of the track below and multiplies them. If the image is already dark, there is little or no effect. If the image is light, Multiply darkens it.

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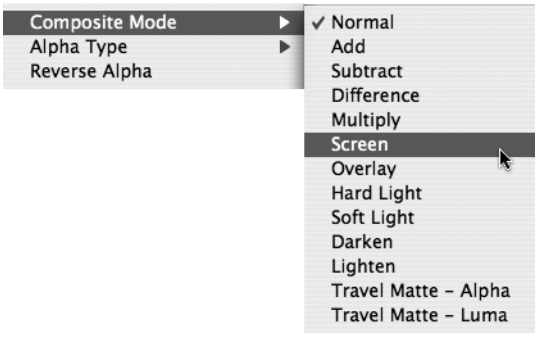
- **Screen**—Compares the color values for each pixel in the clip with those of the track below and multiplies the inverse of each. If the image is already light, there is little or no effect. If the image is dark, Screen lightens it.
- **Overlay**—On a scale of 0 to 255, Screen is applied wherever the color value is greater than 128. Multiply is applied wherever the color value is less than 128.
- **Hard Light**—Darkens or lightens the colors, depending on the color values of the clip. The effect simulates shining a hard spotlight on a scene.
- **Soft Light**—Darkens or lightens the colors, depending on the color values of the clip. The effect simulates shining a diffused spotlight on a scene.
- **Darken**—Compares the color values of each pixel in the clip with those of the clip on the track below and selects the darker of the two. You can use Darken to remove white backgrounds easily.
- **Lighten**—Compares the color values of each pixel in the clip with those of the clip on the track below and selects the lighter of the two. You can use Lighten to remove black backgrounds easily.
- **Travel Matte–Alpha**—See "Travel Mattes," later in this lesson.
- **Travel Matte–Luma**—See "Travel Mattes," later in this lesson.

To apply an FCP composite mode effect:

1. Superimpose one video clip on top of another in the Timeline.
2. Select the uppermost clip.
3. To select a composite mode, do one of the following:
   - Choose Modify > Composite Mode and select the desired mode.



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- Control-click a clip, choose Composite Mode from the shortcut menu, and then select the specific composite mode you want to apply from the submenu.

NOTE ▸ Unlike filters, you can't combine multiple composite modes in one clip.

V1 clip

V2 clip

Composite image with overlay applied to V2 clip

When you apply a composite mode to a clip, a red render bar may appear, depending on your RT settings. You can view the composite by dragging the playhead through the clip or by pressing Option-P to preview it, as discussed earlier in this lesson. But to see the effect in real time, you need to render it.

TIP A really great use of the QuickView tool is to use it to preview composite modes. Open the QuickView tool, set In and Out points in the Timeline to identify the preview area, choose a composite mode for the upper clip, and then click the QuickView Play button. To preview other compose mode options, Control-click the upper clip and select another composite mode. The QuickView updates to preview that effect.

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Travel Mattes

Another area in which Final Cut Pro differs in its offering of composite modes is in the Travel Matte options on the bottom of the modes list. In Avid, you must apply such matte effects as segment effects usually packed into a submaster. In either system, most mattes or masks are applied on top of an image and allow a portion of the clip on the track beneath to be revealed. Travel mattes are different. They use the lower, or under, image to define the matte area and the upper image as the matte fill. You can create a travel matte using a shape based on either the alpha channel of an image or its luminance quality.

The Composite mode list offers two Travel Matte options: Alpha and Luma. Applying the Alpha travel matte to an upper clip will cause the clip to be revealed in the shape of the alpha channel from the clip below it. Applying the Luma travel matte will cause an image to be revealed in the shape of the luminance of the track below it.

These masks are referred to as travel mattes because the underlying image may have movement that will define how the image above it is revealed against the background below.

To create a travel matte:

1. Place a clip on the V1 track that has either a luminance effect or an alpha channel.
2. On the V2 track, place the clip you want to use to fill the alpha or luma area in the clip below it.
3. Select the upper clip.
4. Choose Modify > Composite Mode > Travel Matte–Alpha or Travel Matte–Luma, depending on whether you used an alpha or luma source for the lower clip.

   The composite image will be that of the upper image showing through the shape of the lower alpha channel or luminance area.

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In the preceding illustration, the lower image is of white clouds against a dark blue sky. The white clouds are providing the luma source. The upper image, of people standing on the shore, is the V1 clip used in the composite mode example. This clip is providing the fill for the white cloud shapes.

> **NOTE ►** If you are not sure whether a clip has an alpha channel, open the clip's Item Properties window (Command-9), or choose Alpha in the View pop-up menu.

What You've Learned

- Audio transitions, video transitions, and filters are organized within the Final Cut Pro Effects menu and in the Effects tab in the Browser.
- Real-time transitions (in boldface type) require no rendering for playback, even out to video preview.
- You can adjust real-time settings in the RT pop-up menu in the Timeline.
- You can add transitions either by dragging them directly to the Timeline or via the Effects menu after selecting an edit point.
- You can change a transition's alignment via a shortcut menu or in the Transition Editor tab and with keyboard shortcuts.
- You can modify the length of a transition by Control-clicking an existing transition and changing it in the Duration dialog, by dragging the edge of the transition left or right, or by entering a new duration on the Transition Editor tab.
- You can apply an alpha transition and incorporate animated mattes.
- You can add overwrite or insert edits with the default transition already attached, either in the Canvas overlay, or by dragging the clip atop the blue Replace button and choosing Insert with Transition or Overwrite with Transition option, or with keyboard shortcuts.
- To open the Transition Editor, double-click either side of the transition icon in the Timeline.
- You can set any transition you choose as the default transition.
- To add the default transition to multiple clips at one time, select them all and, with the playhead on the first frame of the selected group, drag them to the Canvas, and then drop them onto the Overwrite with Transition Edit Overlay option.

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- You can access the FCP video and audio filters and apply them to a single clip, a group of clips, a range of clips or material, or even to an entire sequence.
- To modify a clip's filter parameters in the Filters tab in the Viewer, double-click to open the clip in the Viewer.
- The Frame Viewer gives you a split-screen view of a clip with and without the filter effect, or other viewing options.
- You can delete filters in the Viewer or by Control-clicking in the Timeline and choosing Remove Attributes.
- You can save a transition, filter, or a group of filters as a favorite template.
- FCP automatically assigns keyboard shortcuts to your top four favorite effects from each category.
- Unlike Avid, FCP allows you to copy and paste video and audio attributes—including filters, motion effects, and clip content—from one clip to another.
- Similar to Avid's render dots and bars, FCP displays render lines in the Timeline, color coded to indicate render status and need.
- You can choose various render options in the Sequence menu.
- You can preview an unrendered clip by scrubbing through it, pressing Option-P, or by choosing Tools > QuickView.
- You can add third-party filters to the FCP Plugins folder, and they will appear as options in the Effects menu and on the Effects tab in the Browser.
- If you have installed Motion, more than 50 Motion (FxPlug) filters will appear in your Effects tab. You can filter by Recommended or Preferred effects.
- In FCP, superimpose is an edit type that places one clip above another in the Timeline.
- You can set opacity levels after toggling on the opacity overlay line in the Timeline. You can set keyframes directly on the overlay line with the Pen tool or by using Option with the default Selection tool.
- You can keyframe filter parameters in the Filters tab time graph area of the Viewer, or by toggling on Clip Keyframes to add or modify keyframes directly in the Timeline.
- FCP offers several composite modes that determine how two clips will interact.

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Keyboard Shortcuts

Command-5	Open the Effects tab in the Browser if it is closed
Command-T	Apply the default video transition
Command-Option-T	Apply the default audio transition
Shift-F9	Add an insert with transition
Shift-F10	Add an overwrite with transition
Option-7	Open the Frame Viewer in the Tool Bench
Option-F	Make a favorite of the filter at the playhead position
Shift-Control-1, -Q, -A, or -V	Apply one of four favorite transitions to the selected edit point
Shift-Control-2, -W, -S, or -X	Apply one of four favorite filters to the selected clip or clips
Option-V	Open the Paste Attributes dialog
Command-Option-V	Open the Remove Attributes dialog
Command-R	Render selected items or sequence range
Option-R	Render everything in the Timeline
Option-P	Preview unrendered selections
Option-8	Open the QuickView window
F12	Create a superimpose edit
Option-W	Toggle Clip Overlays on and off
Shift-K	Move the playhead to the next keyframe
Option-K	Move the playhead to the previous keyframe
Option-T	Toggle Clip Keyframes on and off
Option-1, -2, -3	Change transition alignment
Shift-Z	Fit clip duration in keyframe graph area to window

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10

Goals

Apply constant and variable speed changes

Edit with Fit to Fill

Work with speed segments in the Timeline

Use the Speed tool

Create a freeze frame effect

Explore motion parameters

Zoom the image view

Apply motion effects to an image

Create and nest multilayered motion effects

Copy and paste motion attributes

Create and modify a motion path

Save a motion path as a favorite

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Lesson **10**

Speed and Motion Effects

Avid provides the staples of motion effects: freeze frames, slow and fast motion, reverse motion, strobe, and many 3D effects, depending on your software version and hardware support. Final Cut Pro also supplies these effects; but with FCP, a bold new world was introduced that utilizes a powerful desktop graphics approach to creating motion effects.

By using this hybrid approach to building composites, which some Avid systems are doing now as well, you will learn how to scale, position, crop, distort an image's perspective, and even set keyframes, all directly on the sequence clip in the Canvas. Because FCP isn't "modal" and doesn't require that you step out of your sequence into a special editing environment, this method not only speeds up the editing process, but it also opens up more editing and compositing possibilities.

If working with sliders and numeric input is more practical for an effect, you can use the Motion tab and its keyframe graph in the Viewer, which is the Effects Editor for motion effects. And with the FCP real-time engine, you can combine several streams of motion effects in one comp and play them in real time without rendering.

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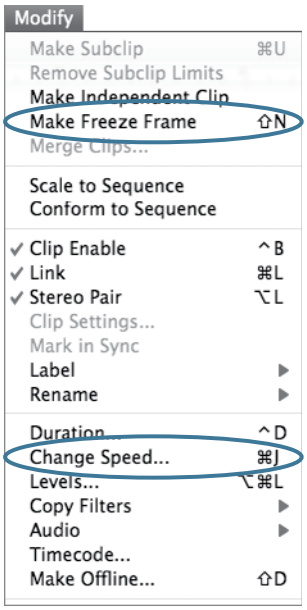
Applying a Speed Change

In Avid, you click the Motion Effect button, either on the Fast menu or wherever it may be mapped, to open the Motion Effect Parameters window. Here you can change a clip's speed, perform a Fit to Fill edit, create a strobe, and so on.

Avid Motion Effect command

In Final Cut Pro, you access the speed and freeze frame motion effects using the Modify menu or keyboard shortcuts, and you enter speed attributes in the Change Speed dialog. In this dialog, you can create speed changes where the speed is constant throughout. You can also create variable speed changes where the clip speed ramps up to the new speed and/or ramps down from it.



FCP applies a speed change to a clip in the Viewer or to a selected clip in the Timeline where you have the choice to ripple edits and change the length of your sequence or not. Unlike Avid's speed function, the FCP speed function also affects the audio portion of a clip if video and audio are linked together. You can set the speed in different ways and

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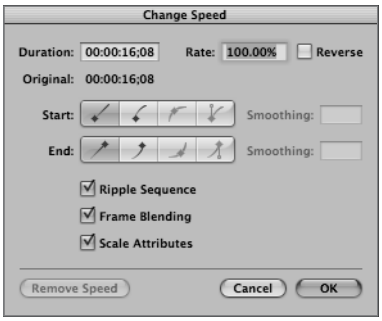
even apply speed settings in a reverse direction. As in Avid, setting a percentage sets a new clip duration, and setting a duration sets a new speed percentage.

To create a speed change:

1 Open a clip in the Viewer or select a clip in the Timeline.

2 Choose Modify > Change Speed, or press Command-J, to open the Change Speed window.

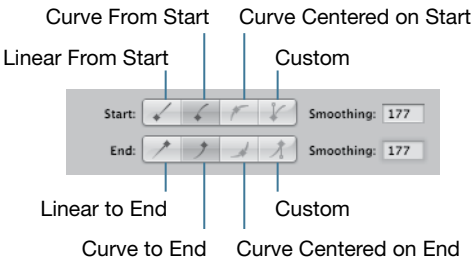
NOTE ▶ You can also Control-click (or right-click) a clip in the Timeline, and from the shortcut menu, choose Change Speed.



3 In the Change Speed dialog, enter either a specific duration for the clip or a speed rate percentage.

4 To change the direction the clip is playing, click the Reverse checkbox. You can also add a minus sign before the percentage number as you would in Avid.

5 To smooth the speed change by ramping up to it and/or down from it, click the Curve From Start or Curve to End button.



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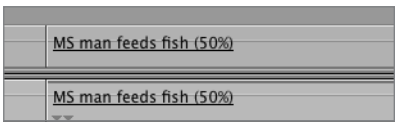
This set of buttons represents Bezier curves and are designed to smooth into or out of a speed. The first option represents linear movement with no curve or smoothing. Clicking the Curve From Start and Curve to End buttons adds a speed keyframe at the head or tail of the clip. When selected, the clip's speed ramps up or down respectively by the number of frames that appears in the Smoothing field. FCP sets an initial number of smoothing frames based on speed and clip length, but you can change that ramp time by entering a different value.

NOTE ▶ The other two smoothing options are dimmed and available only in certain situations. They are both discussed later in this lesson.

6 To allow the speed change to ripple the sequence length, select the Ripple Sequence checkbox. Select the Frame Blending checkbox if you want to blend the frames of a slow-motion effect to give it a smoother look. And if you want any keyframes to scale to the new clip length, select the Scale Attributes checkbox.

TIP For even smoother playback, especially in slow motion, you can send the clip to Motion and choose Optical Flow as the Frame Blending mode.

7 Click OK.



In the Timeline, a speed percentage appears after the clip name. If Reverse was selected, a minus sign (–) appears in front of the percentage. If a smoothing option was selected, "Variable" appears after the clip name.

8 To revert a clip's speed back to its original state, open the Change Speed dialog for the clip and change the settings back to their original configuration.

NOTE ▶ Changing the speed or direction of a master clip in the Viewer will not change the speed of its affiliate clips in the Timeline. But any future uses from that master clip will have the speed change applied.

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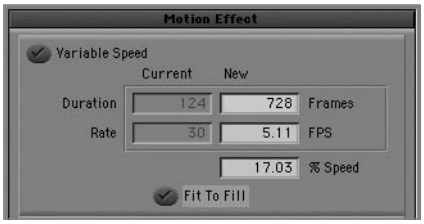
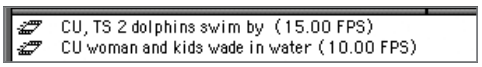
Editing with Fit to Fill

Another way to change clip speed is to edit the clip using the Fit to Fill function, found in both Avid and Final Cut Pro. This creates a constant type speed change based on two durations: the marked duration of the source clip that will fit into the targeted duration in the Timeline. Avid users may be familiar with choosing the Fit to Fill option in the Motion Effect window.



Avid's Fit to Fill option

In Avid, you see the speed of the altered Fit to Fill clip before editing it into the sequence. In FCP, you make the edit, and the altered speed percentage is displayed as part of the clip name in the Timeline.



Avid motion effect clip in bin

FCP Fit to Fill clip in Timeline

FCP Fit to Fill appears as one of the Edit Overlay options in the Canvas and also as an edit button in the lower portion of the Canvas window. With the Fit to Fill function, you can fit a new clip into an existing clip location in the Timeline, but you can also place a new clip in a gap or marked section of a sequence.

To replace a clip or gap using Fit to Fill:

You can prepare your Fit to Fill edit in FCP as you would in Avid, by setting a duration or In and Out points in your Timeline. However, FCP does not require that you set edit points to perform a Fit to Fill edit. You don't even need to select a gap or a clip in the Timeline as the target clip to fill; rather, you can simply park the playhead over it.

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1 Patch the source control to the appropriate destination track.

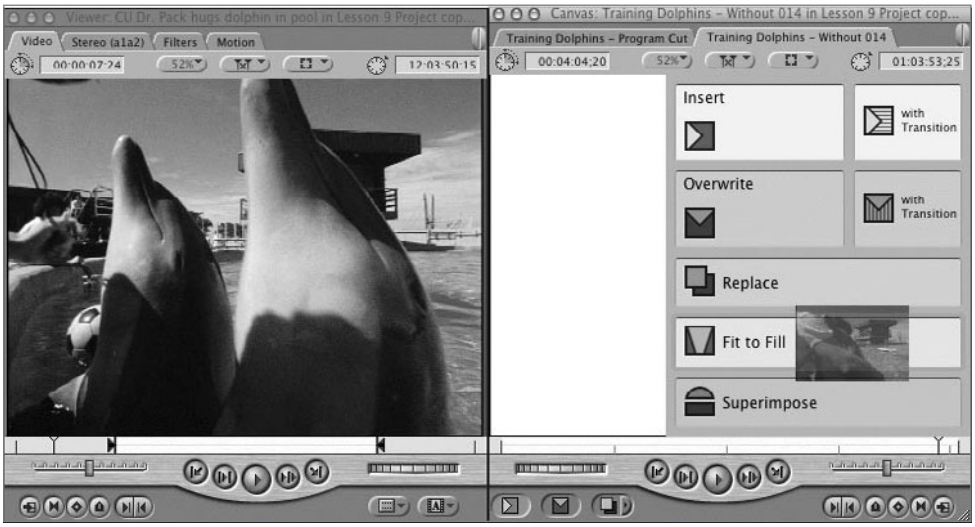
2 In the Viewer, open the clip you want to use as the fill source.

3 In the Viewer, mark In and Out points where you want the fill edit to start and stop. If there is no In mark, the clip will be used from the first frame. If there is no Out, the clip will be used to the last frame of the clip.

4 In the Timeline, move the playhead to the clip or gap you want to replace.

5 *Do one of the following:*

- Drag the source clip into the Canvas and drop it on the Edit Overlay Fit to Fill option.
- Change the third Canvas edit button to Fit to Fill, and click it or drag the clip onto it.
- If your Mac OS X Exposé shortcuts have been redirected, press Shift-F11.



TIP Fit to Fill can also be used to extend a clip in the sequence across a gap, or to cover multiple clips. In these situations, mark an In and Out in the Timeline to define the area you want to replace. If you are using a clip from the sequence as the fill clip, you can press F to find its match frame and then replace filling a longer duration.

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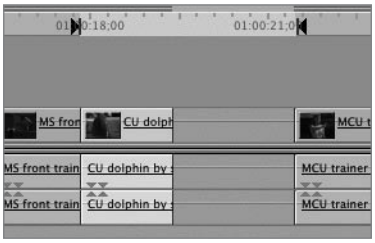
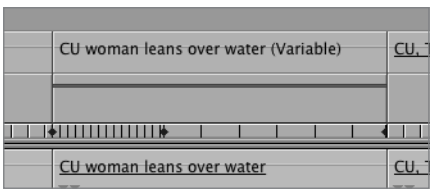


Replacement clip will fill from In to Out marks.

Creating and Changing Speed Segments

In Final Cut Pro, as in Avid, you can combine different speeds within a single clip so a clip can speed up, slow down, play in reverse, and freeze at precise locations. New to FCP 7, you can dynamically add keyframes to Timeline clips and drag the keyframes to create speed *segments*. Once you've made individual speed segments within a clip, you can change the speed of each segment independently to create variable speed effects. You can also adjust speed keyframes in the Viewer.



Three speed keyframes create two speed segments.

To control speed segments in the Timeline:

Rather than change the speed of the entire clip, you can click a specific frame to add a speed keyframe which creates speed segments, and then change each segment for the desired speed effect. And by dragging a keyframe within a speed segment, you can further fine-tune your speed effect. To work with speed segments in the Timeline, you have to turn on the Clip Keyframes control.

1 In the lower left of the Timeline, click the Clip Keyframes control.

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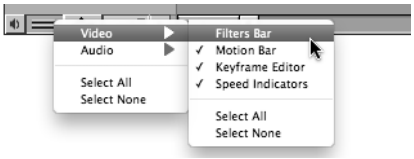
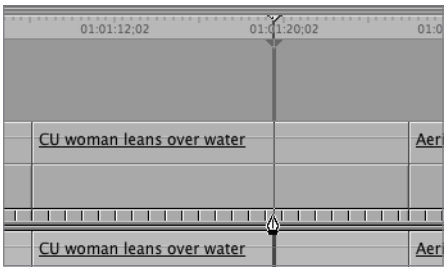
When you turn on Clip Keyframes, the Timeline tracks expand to allow room for the keyframe editor and the speed indicators, which are the tiny vertical tick marks across the bottom of each track. When the speed ticks are evenly spaced, that indicates the clip is moving at a constant speed.

2 Control-click the Clip Keyframes control, and in the Video submenu, deselect the Filters Bar option so it is not distracting for this exercise.

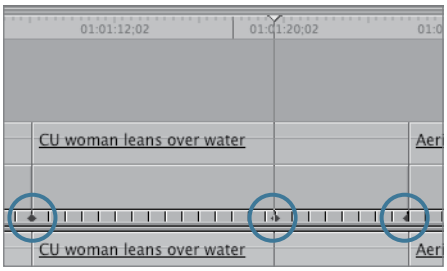


3 Drag the playhead through the clip in the Timeline to identify the frame where you want the speed to change.

4 Move the pointer into the speed tick area and snap it to the playhead location. When the pointer changes to the Pen tool, click at that location.



When you click with the Pen tool in the speed tick area, three speed keyframes are added to the clip: one where you clicked, one at the first frame of the clip, and one at the last frame of the clip. This creates two speed segments.



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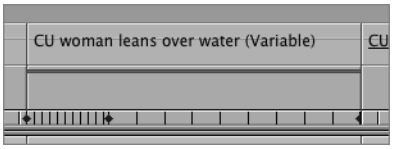
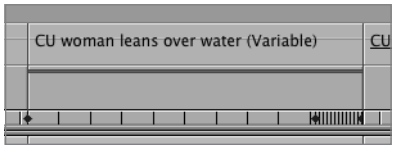
TIP To add additional keyframes and create more speed segments, click other frames within the clip.

5 Position the pointer over the middle keyframe and drag left or right to change the speeds of the two segments. In the Canvas, you can see the new source frame that will begin the next segment.

As you drag left, the first segment becomes shorter and its speed ticks move closer together, indicating a faster play speed. As you drag right, the first segment becomes longer and the speed ticks move farther apart, indicating a slower play speed. Also, when the speed is changed, a thin blue line appears at the top of the keyframe area to indicate that the clip contains a motion effect.

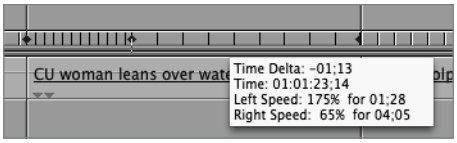


Shorter and faster first segment



Longer and slower first segment

NOTE ▶ When you change a speed segment, "Variable" is added to the clip name because the clip now contains various speeds.



TIP As you drag a speed keyframe, watch the tooltip that appears. It indicates the number of frames and the direction that you have moved the middle keyframe (Time Delta), the Timeline timecode (Time), and the left and right speed percentages and segment durations.

After you've created a speed segment, you can adjust it in the Change Speed Segment dialog, as though it were a separate clip. You can change the speed to a specific rate or percentage, or activate the smoothing function so one segment smoothly flows into another within the same clip.

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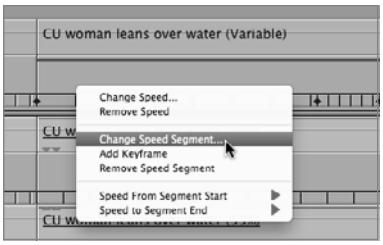
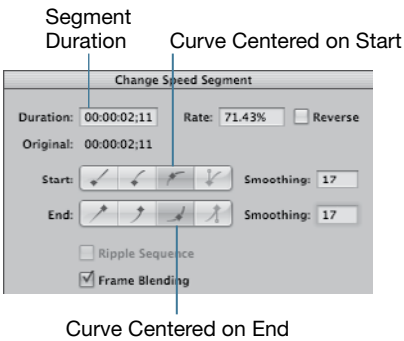
6 Control-click the speed tick area of a speed segment. In the shortcut menu, choose Change Speed Segment. (Do not choose Change Speed.)



NOTE ► In this shortcut menu, you can choose options to add a keyframe, remove the speed effect or a speed segment, and choose a smoothing option.

7 In the Change Speed Segment dialog, enter the speed percentage or rate. To ramp or smooth the speed from this segment to the next, click the Curve Centered on Start button and/or the Curve Centered on End button. Click OK.



NOTE ► The Ripple Sequence option is dimmed in this dialog because changing a speed segment cannot ripple the sequence.

To adjust speed in the Viewer:

Once you've added speed keyframes to a Timeline clip, you might want to fine-tune those keyframes in a larger viewing area. You can do this in the Viewer's Motion tab by displaying the Speed parameters. In the keyframe graph area of that tab, you can adjust the

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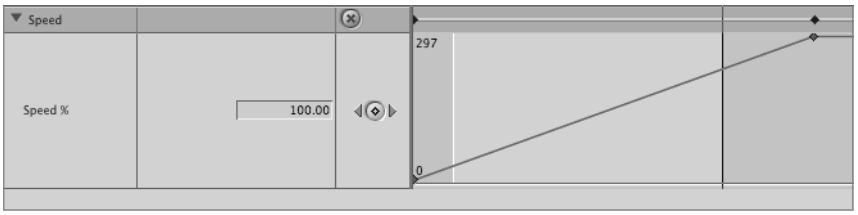
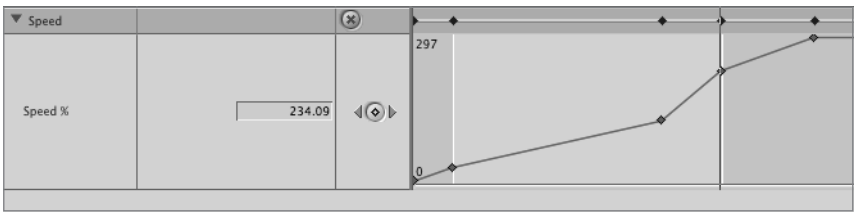
Bezier handles of a keyframe, add or delete keyframes, and adjust keyframe position. You can also access the fourth smoothing option, Custom.

1 After applying a speed or speed segments to a clip in the Timeline, double-click it to open it in the Viewer. Click the Motion tab.

2 Click the Speed disclosure triangle, if that section is not already visible. If necessary, drag the vertical scroll bar down until you see the Speed section in full.



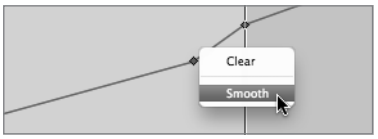
Clip at normal play speed and no speed adjustment



Clip with three speed keyframes and two speed segments within marked clip

TIP For this exercise, dynamically resize the Viewer to make it wide enough to see the entire clip length and the keyframes in the keyframe graph area. You can also use the Zoom control and Zoom slider beneath the graph to zoom in or out of this area.

3 Control-click the middle keyframe, and from the shortcut menu, choose Smooth.



When you set a keyframe to Smooth in the Viewer, the keyframe displays two Bezier handles that you can control to finesse the smoothness or variability of a speed change.

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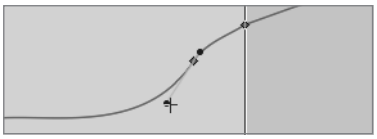
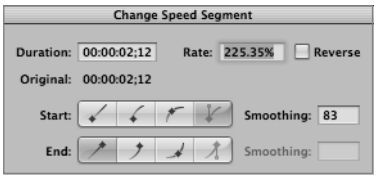
When smoothing options are chosen from the Change Speed Dialog, only one Bezier handle is created around each keyframe.



NOTE ► When you activate and adjust Bezier handles on a keyframe, the Custom smoothing option in the Change Speed Segment dialog is engaged automatically.



TIP To add additional keyframes in the Speed section of the Motion tab, Option-click the speed line, and then drag to position the keyframe left or right and up or down. Any changes made to an edited clip in the Viewer will automatically appear in the Timeline speed tick area.

Using the Speed Tool

In addition to controlling variable speed by setting it, you can also create speed changes by applying the Speed tool in the Timeline. With this tool, you can change the speeds of two adjacent clips at the same time. For example, let's say you have two exterior shots. The first one contains a slow pan while the next clip contains a fast pan. If you wanted the two pans to play at closer speeds, you could use the Speed tool to make the first clip go faster and slow the second clip. It's similar to changing speed segments, but you're using two clips instead of two areas of the same clip. And by pressing a modifier key, you can use the Speed tool to change the speed of just one clip and compensate for the duration change in the adjacent clip.

To apply the Speed tool:

The Speed tool is applied at the edit point between two clips in the Timeline. By dragging an edit point, you reduce one clip's speed, while the other clip accelerates to accommodate

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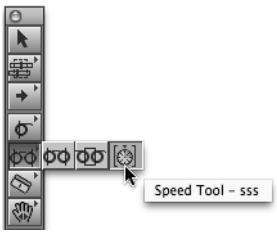
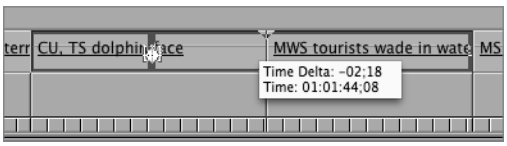
the change. It's similar to rolling an edit point in that the overall length of the sequence does not change.

1 From the Tool palette, click and hold the Slip tool, then select the third tool, the Speed tool. You can also press SSS.

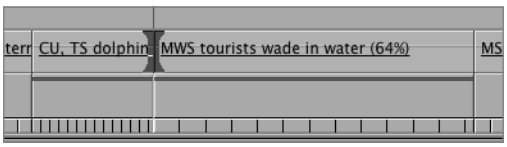


2 In the Timeline, move the Speed tool over an edit point between two clips whose speed you want to change.

3 To speed up and shorten the first clip, drag the edit point to the left. To speed up and shorten the second clip, drag the edit point to the right.



As you drag, a tooltip appears, indicating the amount you've rolled the edit point and to identify its new Timeline location. When you release the mouse button, the speed ticks change beneath the two clips, but the overall duration of the combined clips does not change.



NOTE ▶ After changing the speed of the two clips using the Speed tool, you can always roll the edit point with the Roll tool to change the clip durations while retaining the new clip speed.

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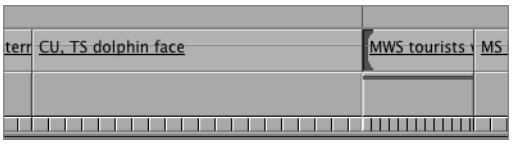
4 To affect the speed of only one clip, Shift-drag just one side of an edit point to the left and or right.



By holding down the Shift key, you change the speed and length of one clip, but not the speed of the adjacent clip. You only change its length by rolling it just as you would when editing a clip in Avid with a Trim to Fill segment effect.

NOTE ▶ If either clip has speed segments, only the outer segments will be affected when you apply the Speed tool to the edit point.

Applying a Freeze Frame Effect

Creating a freeze frame in the Timeline is as easy as creating speed segments. To create a freeze frame, you change a speed segment to 0%. You can also create a freeze frame in FCP in almost the same way as in Avid. However, rather than choosing a freeze length from a list of durations, FCP freeze amounts follow the Still/Freeze Frame default duration in the User Preferences window (Option-Q).

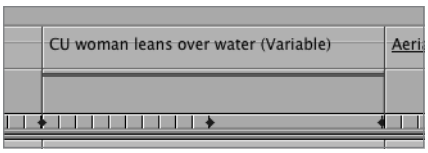
To create a freeze frame using speed segments:

1 In the Timeline, click the Clip Keyframes control to display the track speed ticks.

2 Park the playhead on the frame you want to freeze. Snap the pointer to the playhead and click in the speed tick area to create a speed keyframe at that location.

3 Control-click the segment to the right of the playhead, and from the shortcut menu, choose Change Speed Segment.

4 In the Rate field, enter *0*, and click OK.



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In the speed tick area beneath the clip, the speed segment displays no speed ticks because there is no clip motion past the freeze frame keyframe location.

TIP To create a run-freeze-run effect, simply add another keyframe to create a third speed segment. Change the second segment to 0%. The third segment will play faster to accommodate for the freeze. To return the segment to its normal play speed, change it to 100%.

To create a freeze frame using menu options and keyboard shortcuts:
You can also use menu options and keyboard shortcuts to create a freeze frame. One menu option, Make Freeze Frame, can be used in the Timeline or the Viewer.

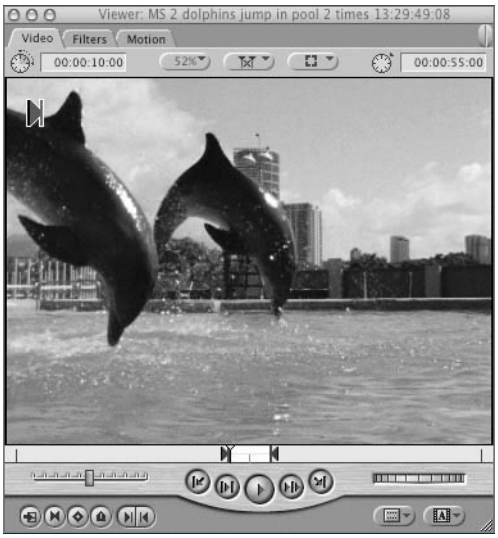
1 To target the frame you want to freeze, *do one of the following:*

- In the Timeline, position the playhead on the desired frame.
- Double-click a clip in the Timeline or the Browser to open it in the Viewer, and then position the playhead on the desired frame.

2 *Do one of the following:*

- Choose Modify > Make Freeze Frame.
- Press Shift-N.

NOTE ▶ You can also use Add Edit in the Timeline to create and then freeze a separate clip.



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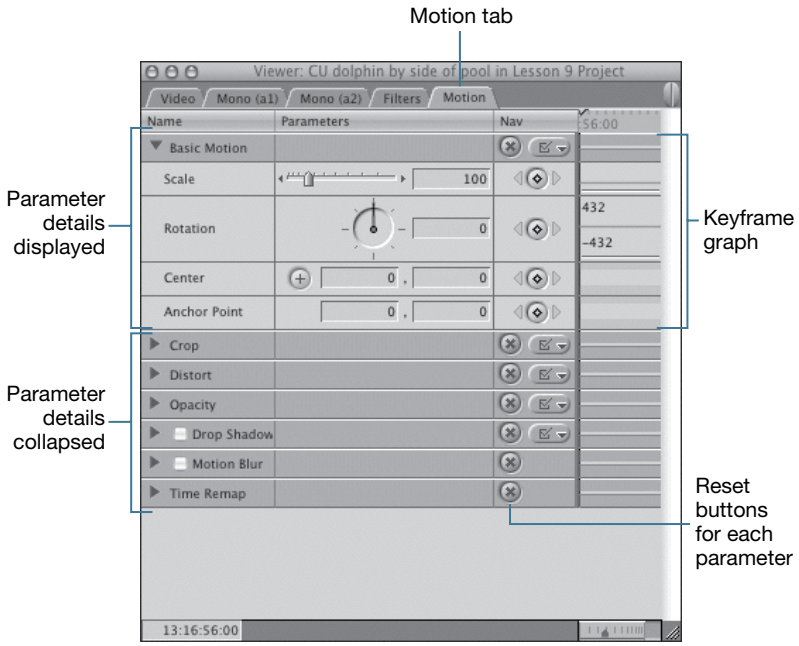
A new freeze frame clip appears in the Viewer, with a marked default duration. If you want to edit a value other than the default duration, re-mark the clip and edit it into the Timeline. If you desire a different default duration for all subsequent freezes, set it in the User Preferences Editing tab's Still/Freeze Durations field.

TIP To save a freeze frame image as a clip, drag the image from the Viewer or Timeline into the Browser. It appears as an effects clip with the title of the source clip or sequence plus the timecode location of the freeze frame.

Exploring the Motion Effects Tab

The Final Cut Pro Motion tab is where all of a clip's motion effect parameters, such as scale, position, rotation, crop, and even clip speed via time remapping, are displayed in a similar way to the filter parameters on the Filter tab. As with so many functions in FCP, there are many ways to create motion effects. The Motion tab has sliders and fields for numerical entries. In some cases, such as Scale, you can make changes directly on the clip in the Viewer or Canvas window. The keyframe buttons for each parameter will look familiar from the previous lesson, as will the Viewer keyframe graph to the right of the parameter settings area.



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But unlike the Filters tab, which sits empty until you apply a filter to a clip, the motion attributes that appear on the Motion tab are already part of each and every clip. The non-modal strategy of FCP includes the motion effect parameters in default settings, waiting for you to change or adjust one or more of them. While the Filters tab serves as an effects editor for segment type effects, the Motion tab serves as an effects editor for motion effects.

To use the Motion tab:

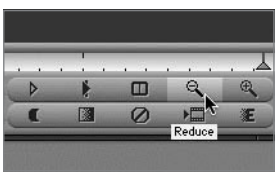
While you can make motion changes to a source clip in the Viewer, most motion effects are applied to sequence clips in the Timeline. As you did with filters, an easy way to view the motion effects applied to a clip is to open the clip from the Timeline and then park the sequence playhead over that clip so you can see the changes in the Canvas.

1. In the Timeline, double-click a clip to open it in the Viewer. Park the playhead over the sequence clip so you can see your changes in the Canvas.
2. In the Viewer, click the Motion tab.
3. Adjust the sliders or enter numerical values to make changes to desired parameters, such as Scale, Rotation, and so on. You can hide or collapse any parameter as you're working.

TIP As you may have done with the Filters tab, you can also peel off the Motion tab to create a separate window, or drag it to the Timeline for an even wider working space.

Zooming the Image View

In Avid, you can enlarge or reduce your view of an image using keyboard shortcuts or mapped commands. In Final Cut Pro, a Zoom pop-up menu in the Viewer or Canvas also provides preset zoom view options. Changing the view of an image can be helpful when you are setting scale, position, and other keyframes. As in Avid, changing the view of an image never alters the actual size of the source or sequence clip, just your view of it.



Avid Reduce button

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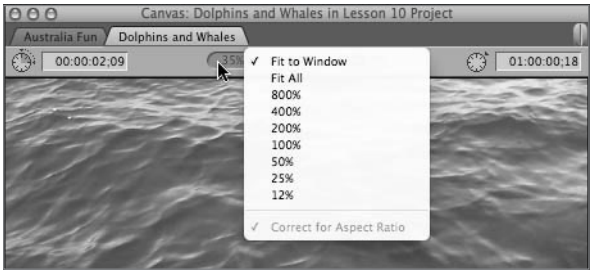
To change the image view in the Canvas or Viewer:

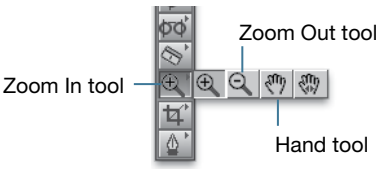
You can apply the following zoom options in both the Viewer and Canvas windows. Make sure either the Viewer or Canvas window is active before trying to change the image view.

Do one of the following:

- Select the Zoom pop-up menu and choose a percentage.



- Press Command-+ (plus sign) to zoom in and view more detail in the image; press Command-– (minus sign) to zoom out and view the image smaller. Don't confuse these with the Timeline zoom shortcuts, Option-+ and Option-–.
- Select the Zoom In tool (magnifying glass) from the Tool palette, or press Z, and click the image to zoom in. You can also press H for the Hand tool to move the image within the Viewer or Canvas.



- Use the Zoom In tool to draw an invisible marquee around the part of an image you want to view larger.
- To zoom out, choose the Zoom Out tool (the magnifying glass icon with a minus sign), or press ZZ, and click the image. With the Zoom In tool active, you can hold down the Option key to access the Zoom Out tool without selecting it from the Tool palette.

  When you change to a zoomed-out view of an image, the entire image area becomes smaller. When you work with motion effects, the gray space around the image area becomes your work palette, where you can position clips to move in and out of the active image area.

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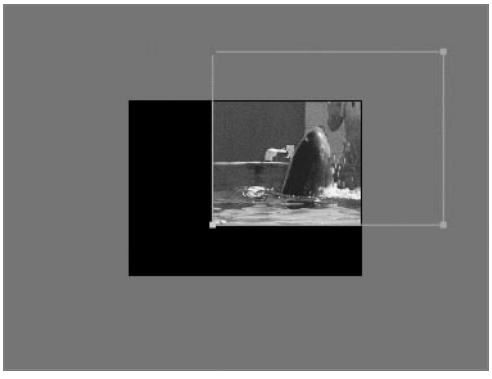
The active image area is what you will see when you output your sequence. For editing purposes, it can be black, white, or checkerboard, depending on what you have selected in the View pop-up menu.



Canvas image area (black) with image repositioned offscreen

TIP To restore the image to its default view, choose Fit to Window from the Zoom pop-up menu, or press Shift-Z. When Fit to Window is selected, you can resize the window, and the image will resize along with it. To allow FCP to accommodate the discrepancy between video and computer monitors, keep Correct for Aspect Ratio selected.

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Sizing and Positioning an Image

You can adjust a clip's size, position, and other motion parameters by entering numbers and dragging sliders in the Motion tab as you might in Avid systems. But while Avid requires you to be in Effect mode to use wireframes, which allow a more direct approach to creating motion paths than using sliders, Final Cut Pro allows you to enable Image+Wireframe mode in the Viewer or Canvas whenever you like. The Image+Wireframe mode is like having a remote control for many motion effect parameters. This, along with the image zoom option covered in the previous exercise, lets you manipulate a clip's motion attributes directly on the Viewer or Canvas image.

To resize an image:

Often we need to reduce or enlarge an image for effect. In Avid, you apply the Resize effect or 3D Warp. In FCP, resize controls for image reduction or enlargement (the Scale parameter) are built into each clip. To create such effects directly on the clip itself, you simply need to activate the Image+Wireframe mode.

1. Double-click a sequence clip to open it in the Viewer and select the Motion tab. Move the Timeline playhead over the sequence clip to see it in the Canvas.

2. To select Image+Wireframe mode, make the Canvas or Timeline active and *do one of the following:*

   - Click the View pop-up menu and choose Image+Wireframe.

   - Choose View > Image+Wireframe.
   - Press W.

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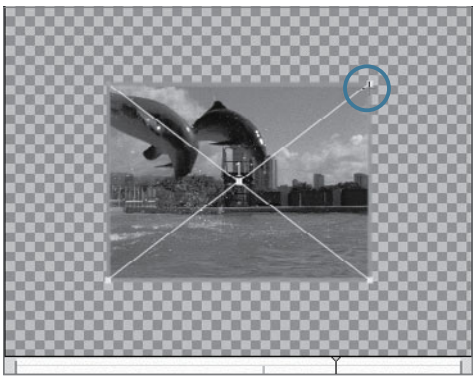
NOTE ▶ Pressing W repeatedly cycles through the three Image/Wireframe modes: Image, Image+Wireframe, and just Wireframe with no image.

3 Drag just one of the corner handles of the image wireframe toward the center to scale the image smaller.

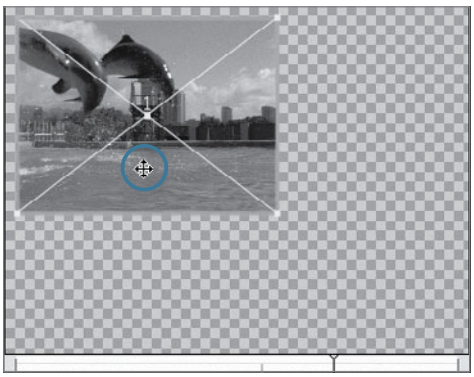


After the image has been resized smaller, you can see the image area appear behind it. The image area shown here has been changed in the View pop-up menu to Checkerboard. This can be a helpful aid when lining up multiple images. The number 1 in the center of the wireframe indicates that the clip is on the V1 track.

TIP The wireframe overlay will only appear in the Canvas when a clip is selected and the playhead is over it. You can select a clip either in the Timeline, or in the Canvas or Viewer, with Image+Wireframe mode active.

To reposition the image:

1 To reposition a clip manually in the Canvas using the Image+Wireframe mode, move the pointer into the image. When you see the Move tool appear, drag the image.



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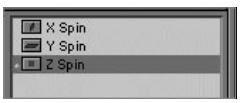
2 To reposition the image in the Motion tab, *do one of the following:*

- In the Center fields, enter the number of pixels horizontally and vertically that you want to move away from center.
- Click the Center crosshairs button, and then click anywhere in the image where you want the center of the image to be.

NOTE ▶ All parameter controls are connected. Changing a parameter in the Canvas or Viewer will also change it in the Motion tab, and vice versa.

Rotating an Image

Avid provides a Spin option to create X, Y, and Z spins in 2D. In FCP, when you spin or rotate an image, you use some of the same features used in scaling and centering (the Image+Wireframe mode, for example) to manipulate clips. Here it is also helpful to use the Zoom pop-up menu to change the image view area so you have space to work with your image.



Avid spin options

To rotate an image:

1 Change the Canvas zoom to 25 percent and make sure the Image+Wireframe mode is active.

2 If you're working with a new clip, double-click the clip in the Timeline and park the playhead over it to see it in the Canvas.

3 *Do one of the following:*

- Click any edge of the Canvas Image+Wireframe overlay. A round rotate icon appears over the wireframe edge. Drag the image down or up to rotate it.

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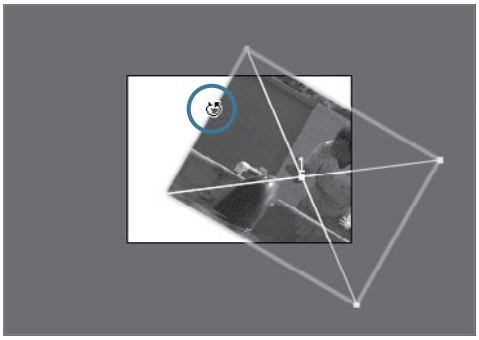


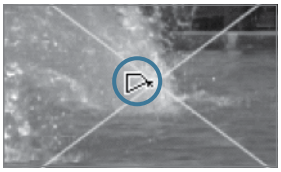
- Type a rotation amount in the number field in the Motion tab. A positive value rotates the image clockwise; a negative value rotates it counterclockwise.
- Drag the rotation circle on the Rotation parameter line. As you drag, the numerical value is updated as well.

To reposition the anchor point:

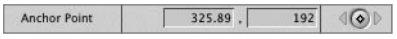
An image's anchor point is the point around which a clip's rotation takes place. An anchor point doesn't have to be in the center of the image, although that is its default location.

Do one of the following:

- With Image+Wireframe mode active, press D to select the Distort tool and move your pointer over the center of the image, where the anchor point is. When you see the Distort tool appear, drag the anchor point from its default center position to a different location. (The Distort tool is discussed in more detail in the following exercise.)



- Double-click the clip to open it in the Viewer and click the Motion tab. Enter horizontal and vertical pixel locations in the Anchor Point fields for where you want the anchor point to be.



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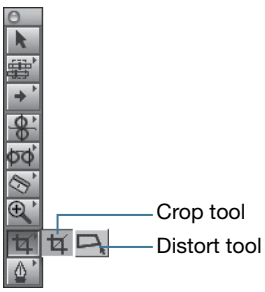
In the following example, the image's anchor point was changed to the lower-right corner. When a clockwise rotation is applied, the image is rotated around the anchor point in that corner.

Cropping and Distorting an Image

In Avid, image cropping is accessed in effects like Resize and Picture-In-Picture. In FCP, it's a built-in parameter for every clip. You can use the Crop function to clean up an image that has video garbage on its outer edges or to crop an unwanted element out of an image, such as a person or sign. Once cropping is applied, any clips beneath the cropped image will be revealed through the cropped area. This may be the desired result if you are building a composite effect. If no clip is beneath the cropped clip, black will appear in the cropped area.

TIP If you try to scale an image larger to fill or compensate for the cropped area, your image may become pixilated.

Final Cut Pro Crop and Distort motion effects are easy to apply using the Image+Wireframe mode. Both Crop and Distort also have parameter controls on the Motion tab, as well as tools on the FCP Tool palette.



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To crop or distort an image:

1 Open an image in the Viewer from the Timeline or the Browser.

2 Set up your preferred viewing options so you can see your changes as you make them.

3 Click the Motion tab in the Viewer to display the Crop or Distort parameters.

4 To crop, *do one of the following:*

- Move the sliders for one or more image sides.
- Enter crop percentages in the number boxes.
- With Image+Wireframe active, select the Crop tool from the Tool palette, or press C, and drag any image side.

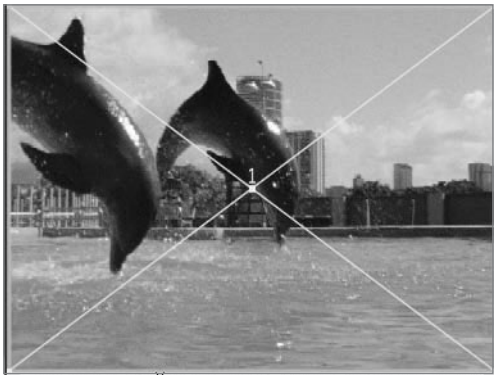

Image before crop

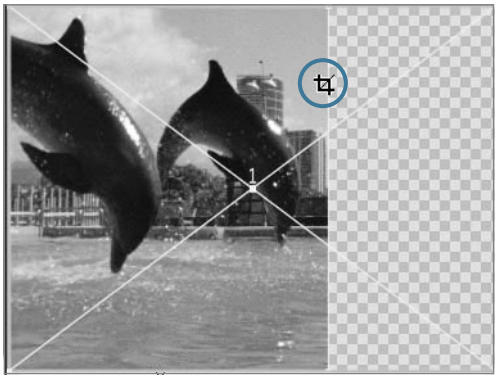

Image after crop

5 To Distort, *do one of the following:*

- Enter numerical pixel values or change the overall aspect ratio with the slider.
- Choose the Distort tool from the Tool palette, or press D, and drag an image corner.

TIP You can use the Distort tool to reposition an image's anchor point by clicking and dragging it. You can also change the Distort parameters to create a forced perspective, as in the following example.

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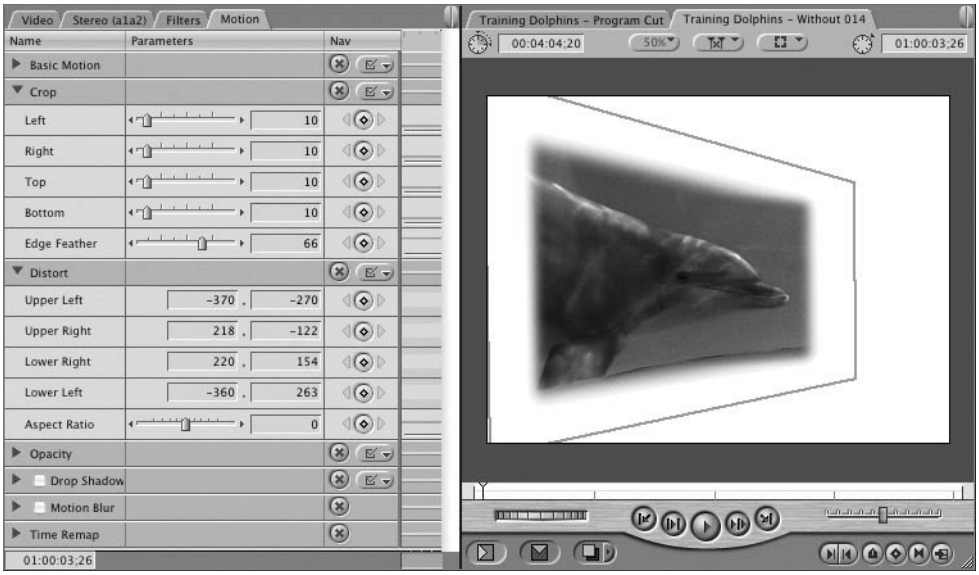

NOTE ▶ This image is cropped, and the edges are feathered. The image has also been distorted to create a forced perspective. The background was changed to white using the View pop-up menu.

Creating and Nesting Comps

Using the Image+Wireframe mode in Final Cut Pro, it is easy to create multilayered motion effects, such as split screens or multiframe images. Once a multilayered effect or comp has been created, it is often convenient to nest the tracks so they can be more easily managed or edited.

In Avid, you combine elements you want to keep together, for ease of effects editing and rendering, by using the Collapse Tracks button. The FCP Nest Items command is not much different. It creates a container for any selected stack or stacks of footage and effects you want to keep together. Either way, when you create a nest, you are combining a group of clips together, either video or audio or both, that can be treated in the Timeline as a single clip. In FCP, as in Avid, you can create a nest from any number of tracks (vertically) and any number of clips (horizontally).

In both systems, you can step inside to edit or adjust and re-render. In FCP, nesting is a great way to add filters to multiple clips and preserve renders so you can freely trim or move a group of effects or clips without re-rendering.

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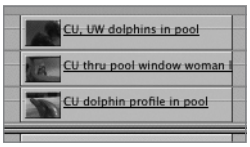
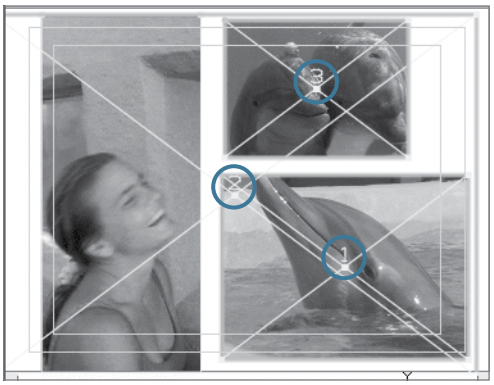
Anatomy of a Split-Screen or Multiframe Image



In this image, all the clips are lined up on top of each other in the Timeline and will appear in the Canvas window together. The image of the dolphin in the bottom right was the first image sized and placed; note the number 1 above the center point of that image in the Canvas shown in the following screen shot. The image on the left was the second image placed; there is a 2 above its center point. This clip was cropped to include only the woman. The upper-right image was the third image to be placed. It was resized to fit the upper corner.



To create a split-screen or multiframe image:

As you select your images, keep in mind the layout of the screen and the design of your effect. Select images that you don't have to scale up too much, or you might get an unwanted pixilated look. Scaling down isn't a problem unless an image has too much detail to see clearly at a smaller scale. You will probably want to work with the Title Safe overlay on so you can monitor the Action Safe area, which is represented by the outer box.

> **NOTE ▶** When a movie is published on the Internet, the full frame—including elements outside the Action or Title Safe areas—will probably be visible.

1 Open each image in the Viewer and select marks. If this is a video-only effect, unpatch the audio source controls in the Timeline.

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2 Edit each image on the next available video track on the Timeline.

3 Make sure Image+Wireframe mode is active in the Canvas.

4 Scale each image smaller by dragging one of its corner handles. (If necessary, change the Canvas viewing zoom size to 50 percent or smaller to see the outer edges of the images.)

5 Position each image by dragging it into place, using the outer square of the Title Safe overlay as a reference for the Action Safe area.

6 Select the Crop tool (C) and drag each side of every image that needs cropping.

7 If necessary, apply a Flop video filter (Effects > Video Filters > Perspective > Flop) so the images face the desired direction.

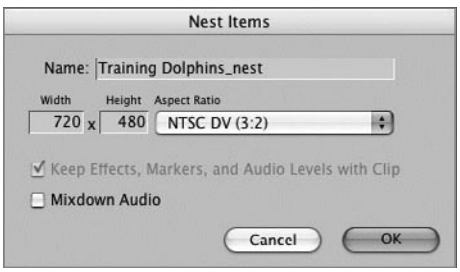
8 Toggle on Drop Shadow for one of the clips, and set the parameters. Then copy that clip and paste just those attributes to the other split-screen clips.

TIP If you are going to use any of these image sizes and positions again, you can save them as some of your favorite motion effects. This is discussed later in this lesson.

To nest the clips from the split-screen image:

1 Select all three clips in the Timeline.

2 Choose Sequence > Nest Items, or press Option-C.



3 In the Nest Items dialog, title the nest, select the appropriate aspect ratio information, and click OK.

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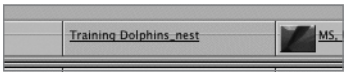
TIP Adding the word "nest" to the clip name will make for easy identification in the Browser and Timeline.



The new nested sequence appears in both the Timeline and in the Browser.

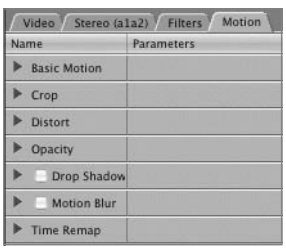
4 To make changes to the original stack of nested clips, double-click the nest in the Timeline. A sequence automatically opens displaying the clips in their original configuration.

When you make changes to the clips, those changes appear immediately in the nest in the parent sequence.

TIP If the original clips have effects that need to be rendered, render them *inside* the nest in their original configurations. Rendering inside the nest will preserve files when the nest is moved or track visibility changes in the parent sequence.

Copying and Pasting Motion Attributes

As you saw in the previous lesson, in Final Cut Pro you can copy and paste clips and transitions from one location to another. You can also paste specific attributes, including motion attributes, from one clip to another. Remember that when you paste filter attributes into a clip, you are adding to whatever filters already exist in that clip. Speed and motion attributes are a little different in that they will completely replace any other speed or motion attributes.



FCP motion attributes (collapsed view)

Available clip motion attributes to paste with two selected

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You can copy and paste FCP motion attributes from one clip to another using the Paste Attributes window. All of the motion effects attributes in the Viewer's Motion tab can be copied and pasted. You can also paste speed attributes.

To copy and paste motion attributes:

1. Copy the clip that has the attributes you want to use, or select the clip and press Command-C.
2. *Do one of the following:*
   - Control-click the clip in which you want to paste the attributes and choose Paste Attributes from the shortcut menu.
   - Select a clip and press Option-V.

   The Paste Attributes window appears, with a list of all the attributes that can be pasted.

   TIP FCP can paste keyframes to clips that are longer or shorter than the copied clip and scale them so they are proportionally placed over the length of the clip (Scale Attribute Times selected), or paste them using the exact timing of the copied clip keyframes.
3. Select each motion attribute or filter you want to paste.
4. Click OK.

Creating a Motion Path

Today, an editor is not only expected to edit, but to composite effects and build animations as part of an integrated process. As an Avid editor, you've most likely created motion paths for your projects. While creating motion paths in Avid is nothing new, adjusting them in Final Cut Pro may be quicker and easier. For example, in Avid 5, you can move keyframes in the motion path. But in FCP, you can add keyframes and manipulate interpolation which results in more flexibility when changing the motion path.

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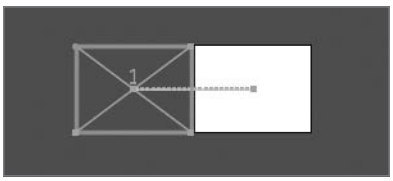
Avid Effect mode window with image handles

NOTE ▶ If you're familiar with creating motion paths, feel free to skip the following section and go directly to "Modifying a Motion Path."

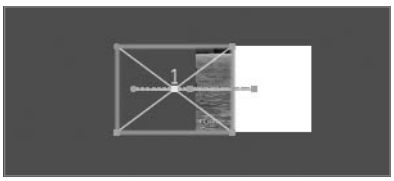
What Is a Motion Path?

As in Avid, a motion path reflects the changes in position an image makes over time. A motion path needs a minimum of two keyframes, creating at least a starting and stopping position on the path. When the Image+Wireframe mode is active, the motion path becomes visible, and you can make changes to it directly in the Canvas window.

The principle behind motion paths is simple. After you place an initial position keyframe, FCP automatically creates a new keyframe for any position change that occurs afterward. The simplest use of a motion path is to fly an image or a title across the screen. If this is new territory, try a simple motion path first. In the following images, two keyframes were used to animate the clip moving into the image area.



Keyframe 1—starting location



Interpolated motion between keyframes

Keyframe 2—ending location

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To create a simple motion path:

1. In the Timeline, double-click a clip to open it in the Viewer and position the Timeline playhead at the beginning of the clip.
2. In the Canvas, turn on Image+Wireframe mode, or press W.
3. Change the Canvas zoom view to 12 or 25 percent so you can see outside the active image area when the image is moved offscreen.
4. In the Canvas window, click and drag the image off the screen to the left. (Hold down Shift to constrain horizontal and vertical movements.)
5. To set a keyframe at this location, *do one of the following:*
   - In the Viewer, click the Motion tab and click the Keyframe button for the Center parameter, which controls the image's position.
   - Click the Keyframe button in the Canvas to apply a keyframe to all motion attributes at this location. You can also press Control-K to achieve the same result.
   - Control-click the Keyframe button in the Canvas and select the specific parameter for which you want to set a keyframe.

When the playhead is over a keyframe in Image+Wireframe mode, the wireframe appears green.

6. Move the playhead to where you want the image to be fully on the screen.
7. In the Canvas, click the image and drag it (hold down Shift to constrain horizontal or vertical movement) to its center position or wherever you want to place it. FCP automatically adds a new keyframe at that point to reflect the change from the original keyframed position.

TIP You can also apply the preceding keyframing steps to other motion effects, such as scale and rotate.

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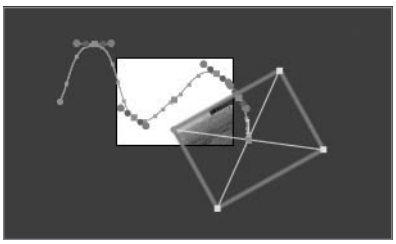
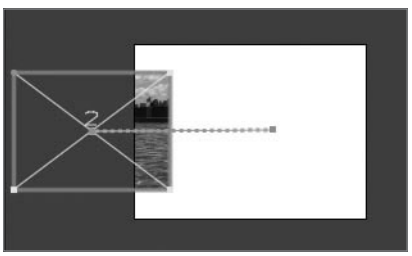
Modifying a Motion Path

Modifying a motion path can be a lot of fun because you can work on it directly in the Canvas window. You can, for example, take a simple two-keyframe motion path, like the one in the previous example, and modify it to fly the image around the screen with just a few easy steps.



Motion Path as Time

Before you start to modify the motion path, take a close look at it and you will see how it represents time. In the following image, the line in the middle is the last part of the motion path. The green square at the right of the path represents the last keyframe that was set. Each dot or bead along the motion path represents an element of time. Dragging one of those time beads changes the position of the clip at that point in time. Thus, the motion path represents the clip over time.



To change a motion path:

1. Move the pointer to a time bead. The main Pen tool icon appears.
2. Click a time bead and drag up or down to create a new keyframe. Since this move created a curve, two handles appear next to the keyframe. These are Bézier handles.

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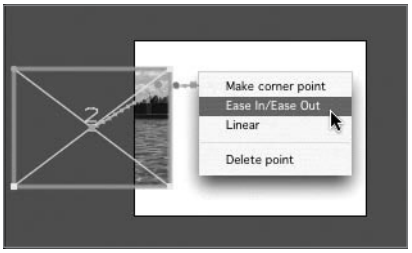
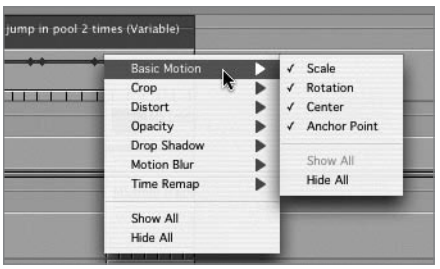
3 To widen the curve, drag a handle out. To make the curve narrower, drag it in. To change the angle of the curve, drag up or down on either handle.

4 To make changes to a keyframe along the path, Control-click and choose one of the following options:



- To change a curve to a square corner, choose Make Corner Point.
- To slow down the image as it approaches that point and ease it back out, choose Ease In/Ease Out.
- To make all points even in time, choose Linear.
- To delete a keyframe, choose Delete Point.

TIP You can also change the motion parameters in the Timeline. As you did when adjusting speed segments, click the Clip Keyframe control in the lower left of the Timeline. Control-click the control again and make sure Motion Bar is selected from the Video submenu. Control-click the keyframe editor area under the clip and select the motion parameters you want to control, then make changes on the keyframe graph.



In the motion path shown in the following figure, the beads between the first keyframe and the top keyframe are farther apart than those between the top and end keyframe. The closer together the time beads, the more time there is between those

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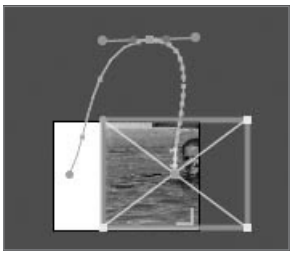
two keyframes. In other words, the more beads, the slower the movement. Here, the image will move more quickly between the first and second keyframes than between the second and third. In this way, the time beads that indicate Motion Path speed are exactly the opposite of the tick marks that represent clip speed in the Timeline.



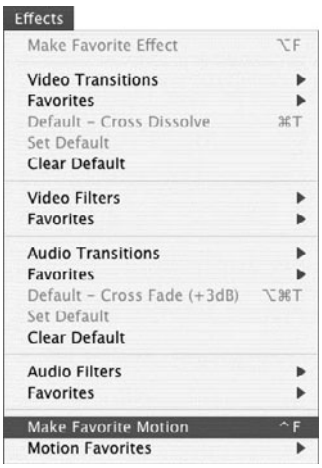
Creating Favorite Motion Effects

If there is a specific combination of motion effects that you want to reuse, such as a picture-in-picture with a colored border effect or a split screen, you can save it as a favorite motion effect. Doing this saves you a lot of valuable editing time and ensures that your effects are repeated consistently.

To create a favorite motion effect:

1 Select the clip that has the motion effect you want to save as your favorite.

2 Choose Effects > Make Favorite Motion, or press Control-F.



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The effect is placed in the Effects folder in the Browser, under Favorites. The new favorite is named after the clip it was made from, but you can change the name by clicking it and entering a new name.

You can also save a combination of keyframed and nonkeyframed motion effects as a favorite. For example, you can apply a speed change, opacity, scale, and crop, and then save the group together.

What You've Learned

- You can make speed or freeze frame motion effects using a menu selection or keyboard shortcut.
- Unlike the one in Avid, the FCP constant speed function also affects the audio portion of a clip if the audio and video are linked.
- You can set keyframes to create speed segments within a clip to create variable speed effects.
- When you choose Modify > Make Freeze Frame, FCP creates freeze frames with a default duration set in the User Preferences window.
- FCP has a dedicated Fit to Fill editing button as well as a Fit to Fill Edit Overlay in the Canvas.
- Unlike Avid, FCP requires only playhead positions to prepare a clip for a simple Fit to Fill edit. But you can also set In and Out points in the Timeline for the location of the Fit to Fill edit, as well as In and Out points for the source fill material.
- Variable speed changes can be keyframed to create a combination of speeds, directions, and even freeze frames.
- FCP motion effects, such as crop, distort, rotate, and scale, are located on the Motion tab in the Viewer.
- The Center parameter is used to reposition a clip.
- You can view ongoing changes in the Canvas by peeling off the Motion tab from the Viewer.
- It is helpful to reduce the viewing size of an image in the Canvas to manipulate it more easily, especially when dragging the clip outside the active image area using Image+Wireframe.

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- You can nest multiple clips in a single sequence for ease of editing and to preserve render files.
- Motion attributes can be copied and pasted to other clips.
- In FCP, you can create and edit motion paths directly on a clip in the Canvas or on the Motion tab.
- Motion paths can be modified directly in the Canvas window and can be copied, pasted, and saved as favorites.

Keyboard Shortcuts

Command-J	Open the Change Speed window
Shift-N	Create a freeze frame from the frame at the playhead position in the Viewer, Canvas, or Timeline
Shift-F11	Apply a Fit to Fill edit
Command-+	Magnify the view of an image in the Viewer or Canvas
Command-– (minus)	Reduce the image view in the Viewer or Canvas
W	Make Image+Wireframe active and rotate through the three Image/Wireframe modes
C	Change the pointer to the Crop tool
D	Change the pointer to the Distort tool
Option-V	Open the Paste Attributes window
Option-C	Nest selected items
Control-F	Identify a motion effect as a favorite

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11

Goals

Explore FCP video generators

Use the generator Controls tab

Create titles

Create scrolling and crawling text

Apply lower thirds and preprogrammed text

Create 3D text

Use slugs, mattes, and gradients

Apply shapes

Save generators as favorites

Apply and edit Motion master templates

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Lesson **11**

Title Tool and Generators

You can create more than just text with Avid's Title and Marquee tools. You can also create mattes, gradients, lines, arrows, and many other effects to use along with the text. You don't need to import these items into the system; you can create them within the system.

In Final Cut Pro, the same capabilities apply, just a little differently. Titles are one of many items that FCP generates for you, all according to your specifications. FCP crawl and scroll texts are very similar to Avid's. FCP also offers several specialized text generators—including Lower 3rd, Outline Text, and Typewriter Text—that are preprogrammed to get you going. In addition, FCP includes the more powerful Boris FX set, which offers four vector-based titling options. Other items include color mattes, color bars, custom gradients, noise, highlights, and even shapes.

When creating titles, you may also want to consider delving into the Final Cut Studio application Motion, which creates sophisticated visual effects. You can send individual clips to Motion, but you can also apply a Motion master template to use as a bumper, open, or lower third and edit it directly in FCP. (Motion is covered in *Apple Pro Training Series: Motion 4* by Mark Spencer, published by Peachpit Press.)

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Exploring Video Generators

To lay the foundation for creating titles, we'll start with an overview of the Final Cut Pro generated items, so you will know where the title options are located and how you can access them. In addition to text, the FCP generated video items include color bars, slugs, mattes, and render items such as gradients. Even though these are fabricated clips generated within FCP, you still edit them as clips and can even apply effects to them. You can find the video generators by clicking the icon in the lower-right corner of the Viewer window.

NOTE ► By default, all generators render in the current project color space and sequence codec, but you can select different render options by choosing Sequence > Settings. Click the Video Processing tab to change the color space or render quality of the FCP motion effects, and click the Render Control tab to render HDV or XDCAM-HD effects in Apple ProRes 422, or to set the quality of embedded Motion projects and templates.

FCP Video Generators

Except for color bars and slugs, video generators are often used in conjunction with other clips. For example, text clips, which have an attached alpha channel, are often placed over a background clip. You can key out shapes and add them over images, leaving the image to show through the shape. Matte and gradient clips are often used behind text or other images. Noise clips can be keyed over an image for an interesting effect.

You can choose an option from the Video Generator pop-up menu or from the Video Generators bin in the Effects tab in the Browser. In the Effects tab, generator items with

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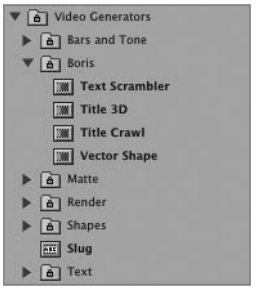
multiple options appear as bins. Note that some video-generated items, such as slugs, appear as graphic icons, while others, such as the contents of the Text bin, appear as video generator icons.



NOTE ▶ Like filters and transitions, those video generators that do not require rendering appear in boldface type.

Let's take a closer look at the Video Generator options:

- **Favorites**—Lists the generated items you have saved in the Favorites folder on the Browser Effects tab.
- **Bars and Tone—**There is a Bars and Tone option for a variety of formats.
- **Boris**—Offers four higher-quality, vector-based titling options.
- **Matte—**Creates a colored matte to use for backgrounds.
- **Render**—Choose generated items such as Clouds, Custom Gradient, Lens Flare, and Particle Noise.
- **Shapes—**Choose one of four types of shape generators to use for matting or effects: Circle, Oval, Rectangle, and Square.
- **Slug**—Like Avid's Load Filler, insert black video with two blank audio tracks.
- **Text**—Insert text using several options, including Crawl, Lower 3rd, Outline Text, Scrolling Text, Text, and Typewriter.
- **Master Templates**—Animated templates that were created in Motion but can be applied and edited (text and images) within Final Cut Pro.

Working with the Controls Tab

When you select a generated clip in FCP, it opens in the Viewer, and a Controls tab appears. In the Controls tab, you can make changes to all of your generated clips. The "bars and tone" and slug items also open in the Viewer but without a Controls tab. Whether the

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generated clip is text, a color matte, or a gradient, the Controls tab displays parameters that you can select and control.

Once a generated item is open in the Viewer, you can apply filters and motion effects to it by applying the same methods you used for video clips. When edited, generated items always take on the frame size of the current sequence.

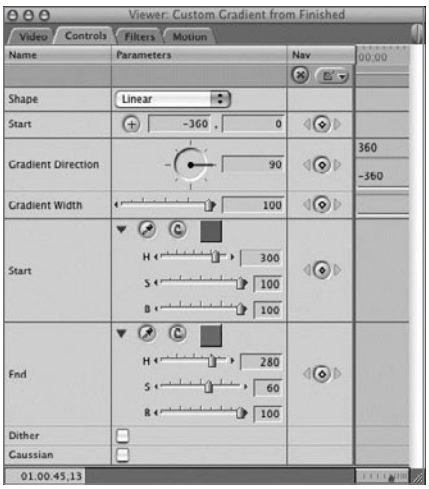
To create a generated item:

1 To open a video-generated item in the Viewer, *do one of the following:*

- In the Viewer, from the Video Generators pop-up menu, choose one of the options.
- Drag one of the Video Generators items from the Effects tab in the Browser into the Viewer.

The selected option opens in the Viewer as a new clip, and a Controls tab appears. All generated clips are given a marked 10-second duration, although 2 minutes of material is available. You can change the default marked duration in the User Preferences Editing tab (Option-Q).

2 Click the Controls tab and make changes to the clip's parameters.



Custom Gradient with all controls displayed

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3 On the Video tab, mark the clip for whatever duration you want.

4 Edit the clip into the Timeline by dragging it or using one of the edit options.

TIP If you drag a generated item directly from the Effects tab to the Timeline but hold down the Command and Option keys before releasing the mouse button, the sequence generator clip will automatically open in the Viewer, with the Controls tab in front.

To view changes to a generated item:

Like making changes on the Filters tab, when you work in the Controls tab you can't see the changes you make if the Viewer Video tab is hidden. You can peel away the Video tab and reposition it as a separate window elsewhere on your screen to see the changes. This will give you the Avid-like text against background you are familiar with in the Text tool. If you are working with a dual-screen monitor, you may even save this as a custom layout. But you can also do what works well for filters and motion effects: Edit the clip into the Timeline and reopen it in the Viewer. With the playhead over the Timeline clip, you can see all your changes in the Canvas, as you would when you view text against video in the Avid Title Tool.

1 Park the playhead on the generated clip in the Timeline.

2 Double-click the clip to open it in the Viewer. You can also click to select it and then press Return.

3 In the Viewer, click the Controls tab and make your changes, which will appear in the Canvas.

Creating Titles

In Avid, you can create and edit text options against an image or background in the same window. In Final Cut Pro, you first create the text clip, and then place it over any clip or background you want in the Timeline. Each video text generator has its own set of options or controls, some including lines or boxes, that you can use in conjunction with the text. Unlike Avid, FCP provides sample text to get you started; otherwise, the familiar Avid text options appear, but in a different layout.

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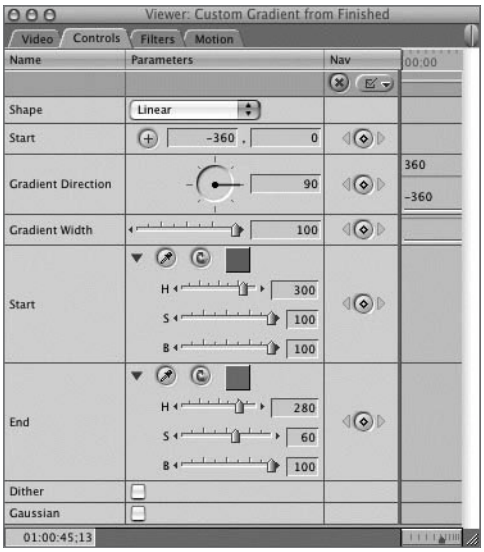
TIP In FCP 7, you can also apply alpha transitions that provide a creative approach to making titles. You can read more about alpha transitions in Lesson 9.

Avid Title Tool controls area



FCP Viewer window resized to display the Text control options

To edit the basic Text clip:

1 From the Video Generators pop-up menu, choose Text > Text. You can also press Control-X to open the basic Text generator in the Viewer.

In the Viewer, you see the words "SAMPLE TEXT" appear against the background on the Viewer's Video tab. The default text color is white, and the default marked duration is 10 seconds.

2 Drag the Text clip to the appropriate track in the Timeline and park the playhead over the clip.

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3 To make changes to the text, double-click the clip to open it back into the Viewer, and then click the Controls tab.

This enables you to make changes in the Controls tab while viewing these changes in the Canvas. Follow this procedure for all text clips.

NOTE ▶ All FCP text clips have alpha channels attached and will be keyed over an underlying background clip automatically.

To change the Text parameters:

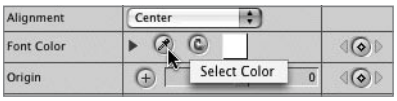
1 Type some text in the Text field, and press Return to create a new line or press Tab to enter the changes.

2 Select a font, size, and style.

3 Choose an Alignment option.

NOTE ▶ Left aligns the left side of the text with the center of the screen. Right aligns the right side of the text with the center of the screen.

4 To change the font color, click the color box to work with one of five color pickers, or use the Select Color eyedropper to pick a color from a clip.



5 To set the origin, click the Origin crosshairs button, and then click the image where you want the text to align. The text will follow the current Alignment option.

TIP If you drag the crosshairs button onto the image, you can see the text position update in the Canvas.

6 Set Tracking, Leading, and Aspect using their respective sliders.

7 Select Auto Kerning to have FCP kern the text for you.

8 Select Use Subpixel to have FCP render the text with subpixel accuracy.

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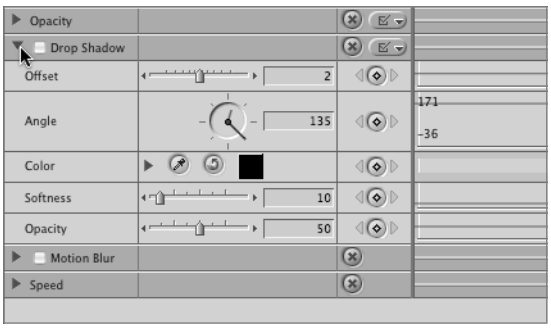
NOTE ▶ You can add keyframes to text parameters as you would a filter or motion effect. You can also change the text opacity by dragging the clip overlay line in the Timeline.

Applying Effects to Generated Items

In Avid, you directly apply drop shadows to text in the Title Tool window. In Final Cut Pro, however, drop shadow is a motion effect you can activate in any clip in the project; therefore, it appears on the Motion tab for general use. You can apply any FCP filter or motion effect to text or any other generated item, just as you can to captured video clips. This can be very helpful when compositing effects.

To apply a drop shadow to a text clip:

1. Open a text or other generated item from the Timeline into the Viewer.
2. Position the playhead over the generated item in the Timeline so that you can see your changes in the Canvas.
3. Click the Motion tab, and then click the Drop Shadow parameter disclosure triangle.



4. Select the Enable checkbox to display the drop shadow under the text in the Canvas.

5. Adjust the Drop Shadow parameters for the desired effect.

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To apply filters or motion effects to text:

1. Open the text or other generated item from the Timeline into the Viewer.
2. Position the playhead over the generated item in the Timeline so you can see your changes in the Canvas.
3. To add a filter, choose Effects > Video Filters and choose the filter you want to apply. You can also drag a video filter from the Effects tab in the Browser to the text clip in the Viewer or Timeline.
4. In the Viewer, click the Filters tab and make any necessary changes to the filter's parameters.
5. To apply motion effects, click the Motion tab and make changes to the motion parameters as you view those changes in the Canvas. From the Canvas View pop-up menu, you can also choose Image+Wireframe mode and manually reposition the text over an image.

TIP To resize the text, always use the Size slider in the text Controls tab rather than the Scale parameter in the Motion tab. Changing text size in the Motion tab causes the text to look pixilated.

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Creating Scrolling and Crawling Text

In the film-editing world, scrolling text is often known as a "title crawl." Crawling text in film is often identified as "slides." In Final Cut Pro, scrolling is vertical movement, and crawling is horizontal. Like Avid, FCP can create scrolling (rolling in Avid) and crawling text or titles. You'll find these options on the Video Generators pop-up menu under Text.

Avid's Crawl and Roll options in the Title Tool

Crawling and Scrolling Text

As in Avid, the length of the crawl and scroll text in FCP is determined by the length of the clip. If you have a long clip, the text will move slowly. You can change the speed of these text clips by changing the clip's duration. Because crawl text occupies only one line, it ignores any Return key presses in the Text box. In scrolling text, however, you can press Return to add lines. Both scrolling and crawling text can be placed over an image or a background, and a drop shadow can be added from the Motion tab.

To create scrolling text:

1. From the Video Generators pop-up menu, choose Text > Scrolling Text.
2. Drag the clip from the Video tab to the Timeline, and double-click to open the sequence clip into the Viewer, replacing the original generator master clip.
3. On the Controls tab, type the text, pressing Return to create new lines.
4. Select the font style attributes.
5. Apply the Indent slider to any left- or right-aligned text.
6. If you want to place a gap between two columns, such as in a film-type credit roll, type an asterisk (*) between the two column entries. Set the gap distance using the Gap Width slider.

NOTE ▶ The gap width is not applied when using left- or right-justified text.

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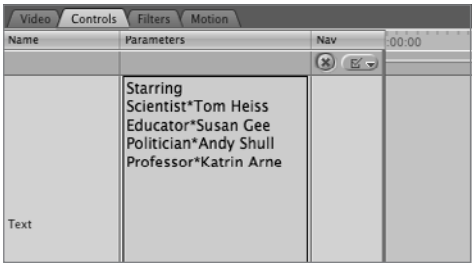

7 If you want to fade in and fade out the text at the top and bottom, choose Fade Size.

8 Choose a direction for the scroll.

To create crawling text:

1 From the Generator pop-up menu, choose Text > Crawl.

2 Edit the generated clip to the Timeline, open it in the Viewer, click the Controls tab, and type the text.

3 Select the font style attributes.

4 If you want to change the space between letters, adjust the Spacing slider.

5 Use the Location slider to move the text up or down on the screen. Zero percent places the text at the top of the screen, and 100 percent places it at the bottom. The default, 85 percent, places the text just above the title safe boundary.

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6 Select the direction in which the text will move.

Applying Lower Thirds and Preprogrammed Text

Final Cut Pro offers a few preprogrammed text options. One is the Lower 3rd, which automatically places two lines of text toward the bottom of the screen. Other preprogrammed text options include Outline Text and Typewriter Text.

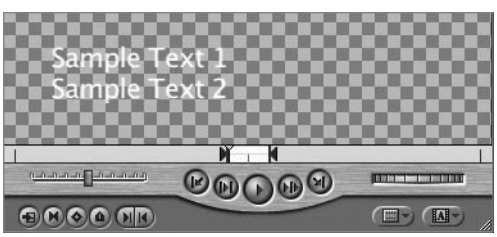
To create lower third text:

The FCP Lower 3rd text option places two lines of text automatically at the lowest point on your screen within the title safe area. You can change the color and size parameters for each line separately. You can also add a colored line or bar in the lower third of the screen to create a text background. Lower 3rd text defaults to flush left. If you want to move the text, choose Image+Wireframe mode, and drag the text on the screen.

1 From the Video Generators pop-up menu, choose Text > Lower 3rd.

2 Edit the appropriate length of this text to the Timeline, and then double-click to open it back into the Viewer. Position the playhead over the text clip in the Timeline.

In the Viewer, you see two sample text lines for the lower third.



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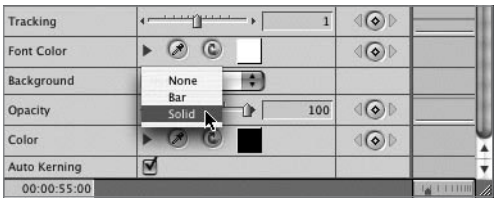
3 Click the Controls tab and enter the appropriate text and text attributes.

4 From the Background pop-up menu, choose Solid or Bar to add either of those to the lower third.



5 Click the color box to choose a color for the bar or background. You can also use the Select Color eyedropper to choose a color from the image in the Canvas or any other image in the Timeline.

TIP If you need greater flexibility with lower thirds, such as additional text lines for the person's identification, use the basic text option or the Boris Title 3D generator, discussed later in this lesson. However, you can't add items such as background bars or gradients automatically using those options.

To create outline text:

The FCP Outline Text option has 25 parameters, which are divided into Text and Background settings. In the Text settings, you make changes to the text and the outline

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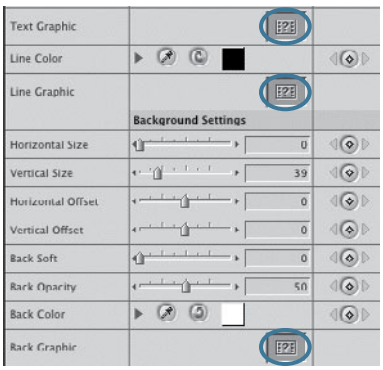
around the text. This includes the text color, font, and font size, as well as the border color, width, softness, and so on.

Apply the background settings to create a background or matte that appears behind the text. You can change the horizontal and vertical size and offset, softness, opacity, and color. You can also use a clip image or graphic to fill the text, the outline, or the background.

1. Create a new Outline Text clip and edit it to the Timeline. Park the playhead over it and open it in the Viewer. Modify the text, outline, and background parameters as desired.

2. To use an image to fill the text, outline, or background, drag that clip or graphic from the Browser into the graphic well on the Text Graphic, Line Graphic, or Back Graphic box.



Graphic wells

Filled graphic well

Image with text graphic and soft background

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3 To clear a graphic, Control-click in the graphic well and choose Clear from the shortcut menu.

To create typewriter text:

The FCP Typewriter option displays individual characters of a title one by one, as if they were being typed on the screen.

- Enter the text and parameters for font, size, location, color, alignment, indent, and pause.

Creating 3D Text with Boris Calligraphy

When you want a little more control over individual characters or lines of text, you can choose a Boris text option in the Video Generators pop-up menu. Like Avid's Marquee, the Boris text generators offer individual character control as well as other effects. The Boris submenu lists four text generators. When you select either of these title options, the Control tab offers access to a new window.

TIP The keyboard shortcut for placing a Boris Title 3D text clip into the Viewer is Option-Control-X.

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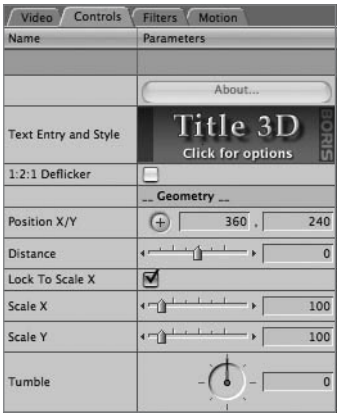
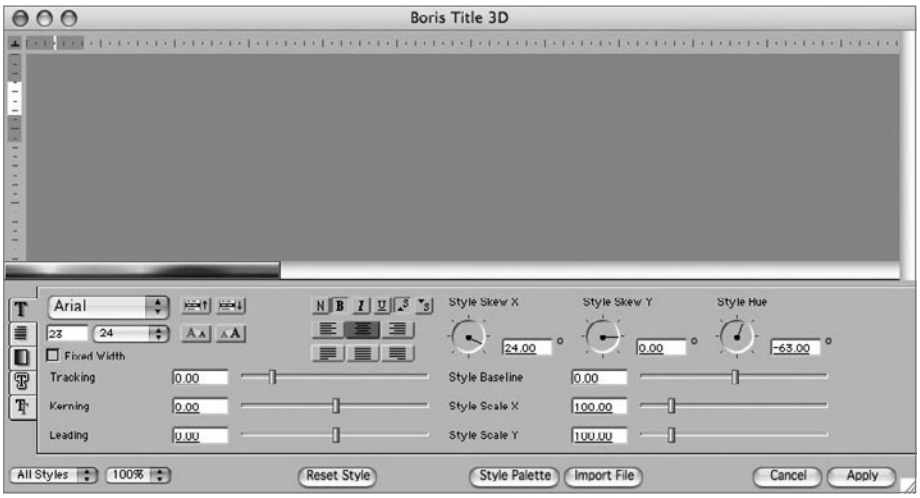


Once you add a Boris title effect to the Timeline, double-clicking it enables you to change parameters in the Controls tab, just as you would for any other FCP text option. Or you can click in the Title 3D area to open the Boris window, which offers a wide variety of parameters, including 3D control of individual characters (Title 3D) and preset styles.



Boris Title Interface and Options

The Boris windows have sets of tabs on the lower-left side. The tabs represent different sets of parameters for Text, Text Wrap, Fill, Edge Style, and Shadow. With the Boris text options, you can skew your text, or you can add a gradient fill or drop shadow directly in the title parameters. You can also choose one of the available styles—or no style at all. Styles can be applied to a line of text or even a single letter.

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The Boris Title Crawl offers rich control over styled scrolling text. You can also choose to either roll the entered text vertically or crawl it horizontally.

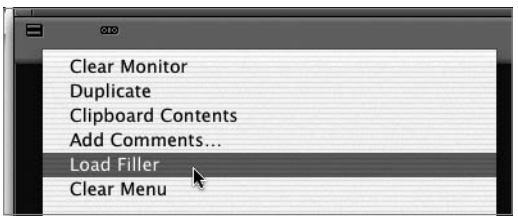
> **TIP** To minimize "line twitter" often associated with vertical movement of text, especially DV, select the 1:2:1 Deflicker option in the Boris Title Crawl.

Animating 3D Text

You can skew the letters of your text to create some interesting effects, such as letters that revolve, fall down, or pivot into position, as in the example here. You can set keyframes for these parameters in the FCP Controls tab, just as you would for other text items, filters, and motion effects.

Using Slugs, Mattes, and Render Items

In Avid, you use Load Filler to create a space filler in your sequence.



Avid Load Filler option

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In Final Cut Pro, you edit a generated item called a *slug*. You can also create color mattes, gradients, and even custom gradients that you can use and then save for future use. Mattes and gradients can have keyframes applied to them.

Slugs

In the Video Generator pop-up menu, Slug stands alone. Just like other generated clips, it opens with a default 10-second marked duration. Like Load Filler, a Slug clip will lay down black video and blank audio in your sequence.

One special use for editing a Slug clip is to fill gaps in your Timeline. For example, you could be preparing a nest and want to apply a filter, such as Timecode Print or Widescreen mask, to the full length of the nested clip. These filters show up over gaps only when the gap has been "slugged" and rendered.

TIP Unlike using Filler in Avid, you edit a Slug clip at the end of an FCP sequence to create extra black.

Mattes

The FCP Matte generator offers two options: Color and Color Solid. When you choose Matte > Color from the Generator pop-up menu, a gray matte appears in the Viewer Video tab; a blue matte appears when you choose Matte > Color Solid. The Color matte defaults to 50 percent brightness and 0 saturation, and the Color Solid matte defaults to 100 percent saturation and brightness. You can change these options in the Controls tab, and then save a matte in the Favorites folder, as discussed later in this lesson.

To change matte color:

1 *Do one of the following:*

- Click the color box and select a color from any one of the color displays.
- Use the Select Color eyedropper to pick a color from an image.

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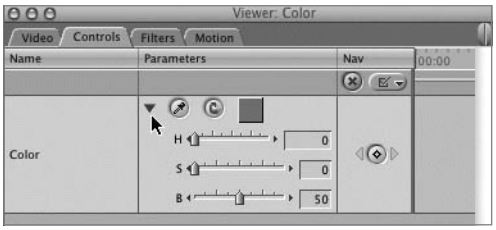
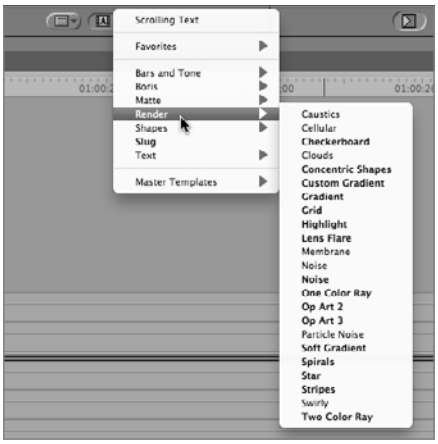
2 To adjust hue, saturation, and brightness using sliders or numerical entry fields, click the disclosure triangle in the Color parameter.



Render Options

The FCP Render video generators include several options, such as Gradient, Clouds, Noise, Lens Flare, and so on.



These generated items are often used in conjunction with other clips. For example, you could use a Gradient or Custom Gradient generated item behind text, or apply it to a video image. You can also key a Highlight, Noise, or Particle Noise generated clip over a background clip for an interesting effect. Such multistream constructions usually require rendering, thus the name.

To create a custom gradient:

In the preprogrammed custom gradient, you can change start and end colors, direction, width, and other options. You change colors in the same way you change colors for the preprogrammed gradients.

1 From the Generator pop-up menu, choose Render > Custom Gradient.

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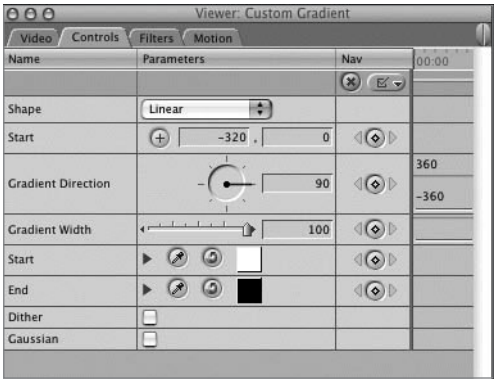
2 Drag the custom gradient clip from the Viewer Video tab to the Timeline and double-click to open it into the Viewer.

3 In the Controls tab, specify whether the gradient shape will be linear or radial.



4 Click the Start crosshairs button and click in the Canvas where you want the gradient to start. Alternatively, you can enter pixel values.

5 Choose a gradient direction.

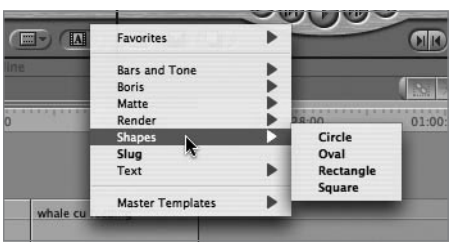
6 Choose a width for the gradient.

7 Choose starting and ending colors.

8 Set Dither and Gaussian to modify the smoothness quality of the gradient.

Applying Shapes

The Final Cut Pro Shapes category includes convenient Circle, Oval, Rectangle, and Square generators. You can modify the shape, size, and color of each. By default, a white shape appears against a black background. You can use the shapes to create mattes or build composites and effects.



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To use a shape clip to create an effect:
In the following example, a shape clip was combined with a Luma Key filter to produce a soft frame around the scene. You can also use shapes to create travel mattes.

1 From the Generator pop-up menu, choose Shape > Oval.

2 Drag the shape clip from the Viewer to V1 in the Timeline. Double-click the shape clip to open it in the Viewer, and then click the Controls tab. Park the playhead over the Shapes clip.

3 Adjust the size, softness, and aspect ratio of the shape clip.

4 To create a travel matte, mark and place your fill clip in V2 in the Timeline above the shape clip. Select the V2 clip and choose Modify > Composite Mode > Travel Matte–Luma.

The upper image fills the space of the shape.

5 To create a key effect, position the shape clip *above* the background clip and choose Effects > Video Filters > Key > Luma Key. Make the appropriate adjustments to key out the white shape area.

The effects created in steps 4 and 5 may create similar but slightly different results.

6 To reposition the oval against the fill image, select the Shape clip in the Timeline and press W to turn on the Image+Wireframe mode. Drag the shape into the desired position.

TIP You can invert shape generators for additional effects by applying an Invert filter. Choose Effects > Video Filters > Channel > Invert.

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Saving Generators as Favorites

Just as you can create Final Cut Pro favorites of motion effects and filters (similar to Avid templates), you can also save generated clips in your Favorites folder. You can then choose your favorites from the Video Generators pop-up menu or from the Favorites folder in the Browser Effects tab.

When you save a generated clip as a favorite, it is displayed with its name next to a color bar icon. This icon represents a generated clip in the Favorites folder. (If you drag a text clip from the Timeline into the Browser, it appears as a regular clip icon.)

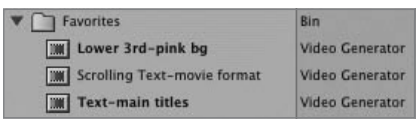
To save and apply generated items as favorites:

1 In the Viewer, set up the generated clip the way you want it.

2 With the Viewer window still active, choose Effects > Make Favorite Effect.

The generated clip or effect is placed in the Favorites folder in the Browser's Effects window.

3 Rename the generated clip to reflect its attributes.



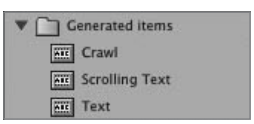
4 To apply this favorite effect, drag it from the Favorites folder in the Browser to a Timeline clip.

TIP To open the Favorites bin as a separate window, press Command-6.

To save a generated clip as a separate clip:

1 Create the clip and place it in the Timeline.

2 Drag the clip from the Timeline into a bin in the Browser.



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Using Master Templates

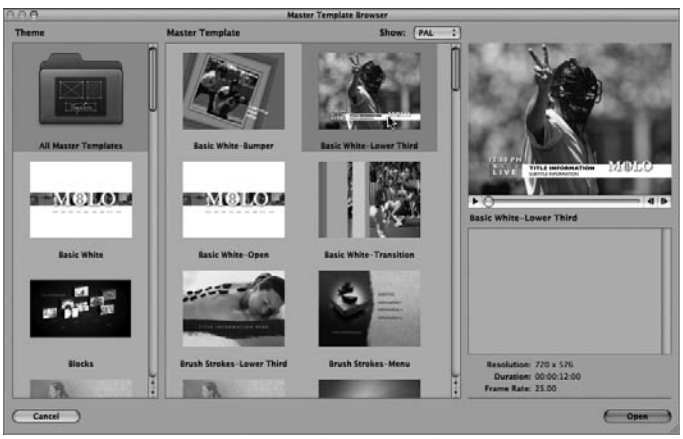
Among the Final Cut Pro generated items is a set of master templates that were created in the Final Cut Studio Motion application. These master templates contain several design concepts, each with its own set of animated templates that you can use for opens, lower thirds, backgrounds, bumpers, and so on. You edit these templates into a sequence as you would any other generated text item, customize the text in the text fields of the Controls tab, and add images into *drop zones* that are designed into the template. You can also create your own titles in Motion and save them as master templates.

With these Motion templates, you can send a template back to Motion, change the background from red to blue or make other changes, and save it. In Final Cut Pro, all uses of that template are updated with the saved change. A master template can be applied from the Effects tab in the Browser, the Effects menu, and the Generator pop-up menu. You can also access and browse the offering of master template styles by choosing an option in the Sequence menu. Depending on which window is active, choosing this option will either open the master template into the Viewer, or edit it directly into the Timeline.

To open a Motion master template into the Viewer:

1. Click in the Viewer, and choose Sequence > Add Master Template.
2. In the Master Template Browser, browse through all options, or click a specific theme in the left pane. Limit the options to a single format by clicking the Show pop-up menu and choosing a format.
3. Click a template in the center Master Template pane to preview it.

   As you play the template, you see it as a complete composite, including text styles and sample images.



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4 Click Open.

5 In the Viewer, click the Controls tab and change the sample text and image options in this template. Drag images into drop zones, and then edit the effect as you would any other clip.

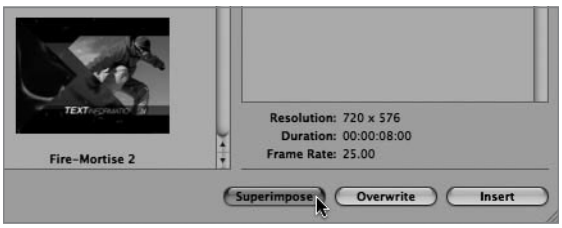
To edit a master template directly to the Timeline:

1 In the Timeline, position the playhead where you want to edit the master template.

2 From the Timeline, choose Sequence > Add Master Template.

3 Select a master template.

4 In the lower-right corner of the window, click the appropriate button. You can overwrite, insert, or superimpose the template into the sequence.



What You've Learned

- Final Cut Pro provides a set of video generators to create titles and text, mattes, shapes, gradients, and real-time color bars and slugs.
- The Generator pop-up menu is located in the Video tab of the Viewer.
- You modify video generators in the Controls tab of the Viewer. However, you modify bars and tone and slugs on the Video and/or Audio tabs.
- To view and edit a generated clip, double-click it in the Timeline to open it in the Viewer. Click the Controls tab. With the playhead positioned on the clip in the Timeline, you will see it in the Canvas. You can also drag the item to the Timeline, and press Command-Option before releasing it, to automatically open the clip to the Viewer Controls tab.

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- You can keyframe text parameters the same way you do an effect.
- You can add filters and motion effects to text or any generated item via the Filters and Motion tab in the Viewer.
- FCP has text generators to create scrolling (Avid's rolling) and crawling text.
- FCP has preprogrammed generators including Lower 3rd, Outline Text, and Typewriter Text.
- FCP provides a Boris set, which provides 3D Text and Title Crawl tools. Although the Boris FX options open in a separate window, you can edit non-text parameters like other generated items in the Viewer Controls tab.
- From the Video Generators pop-up menu, you can select Slug clips that act like Avid's black Filler in the Timeline.
- FCP has a generator for color mattes, all of whose parameters can be edited in the Viewer Controls tab.
- You can select either preprogrammed or custom gradients from the Generator pop-up menu.
- You can use the FCP generated shapes to create static or animated mattes, or to build composites and effects.
- You can apply a Motion master template, and make text and image changes to it in Final Cut Pro.
- You can create your own master templates in Motion and use them in FCP.
- You can save generators as favorites, either in the Brower Effects tab or as separate clips in a Browser bin.

Keyboard Shortcuts

Option-F	Save the modified generator clip in the Viewer as a favorite
Control-X	Open the basic text generator into the Viewer
Control-Option-X	Open Boris Title 3D
Command-6	Open the Favorites bin as a separate window

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12
Goals

Import and export files, EDLs, and batch lists

Import and export sequences from Avid

Reconnect media

Work with graphics and alpha channels

Export clips, still images, and sequences

Share clips and sequences

Change QuickTime options

Export for Soundtrack Pro

Batch export media

Export OMF files, EDL files, and batch lists

Understand Compressor and Cinema Tools

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Lesson **12**

Importing and Exporting

The backbone of the Final Cut Pro importing and exporting file structure is the same as its native editing base: Apple QuickTime architecture. The QuickTime architecture offers a large number of codecs: algorithmic methods of compressing and decompressing audio and video information. Different codecs are used to compress QuickTime files for different delivery formats. All forms of QuickTime material will work with FCP, and all FCP audio and video files captured or digitized to a media drive are stored in QuickTime format, no matter what method was used to create them.

FCP can import files and compositions from programs such as Photoshop and After Effects, and you can access those programs directly from within FCP via the imported file. With Final Cut Studio, you can also send a clip to another Apple application, such as Motion or Soundtrack Pro, and bring it back again. This *roundtripping* process gives you access to the most effective application in the Studio suite for the job at hand, while still centering your work around Final Cut Pro.

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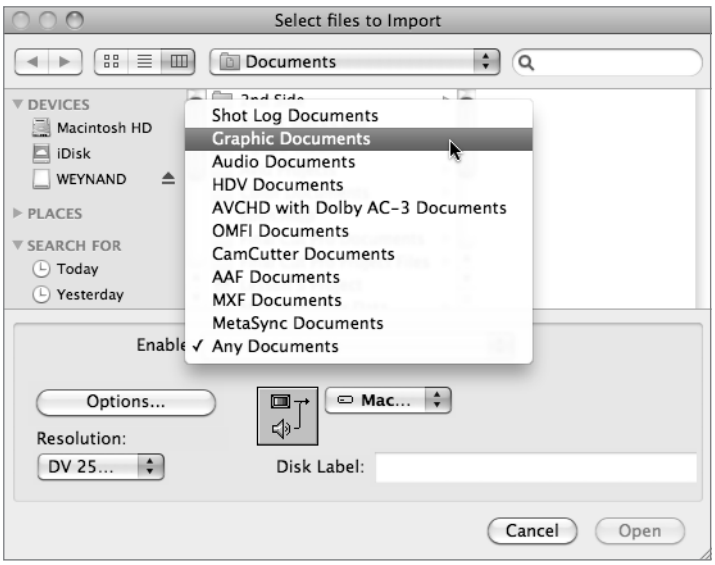
To expand the FCP export functions even further, there is a program called Compressor, which comes bundled with Final Cut Studio and offers additional export options, including exporting for the Internet and DVD. Cinema Tools, which allows you to import and export film lists, and work with other 24p HD material, is also bundled with Final Cut Studio.

Importing Files

Since Media Composer 3.5, Avid users have had a feature called Avid Media Access (AMA), an evolving function that enables native-format editing of P2, AVC-IntraHD, and other file-based media without first encoding it in Avid's proprietary MXF format. FCP has supported P2 formats natively since version 4.5, and supported XDCAM through Sony's free plug-in transfer software. Also in FCP, the new HD formats that require transcoding can be output in one of five super-efficient ProRes422 codecs for real-time playback of multiple streams at very high quality, similar to Avid's DNxHD codecs.



Choosing a file type in Avid's Import window

Another difference between Avid and Final Cut Pro importing functions is that in FCP, you never need to specify or set up the type of file you're importing before you import it. FCP will import any file it recognizes. FCP references almost all still, video, and audio

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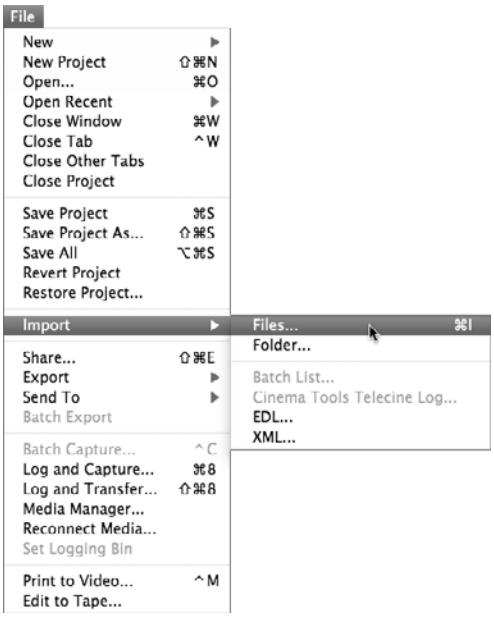
media where it is without transcoding. Remember, too, that FCP settings are attached to the sequence and not the project; therefore, you have the flexibility of combining different formats in the same project, and even in the same sequence. Because of this, you can import different types of media files or folders into a project.

To import a file or files:

The Import function for both Avid and FCP appears on the File menu. And as in Avid, you have multiple ways to access the Import option.

1 To open the Choose a File window, *do one of the following:*

- Choose File > Import > Files.



TIP To capture footage from a media card, such as P2 or SDHC, choose File > Log and Transfer instead.

- Press Command-I.
- Control-click in the Browser window and choose Import > Files from the shortcut menu. To import a file into a specific bin, Control-click that bin and choose Import Files from the shortcut menu.

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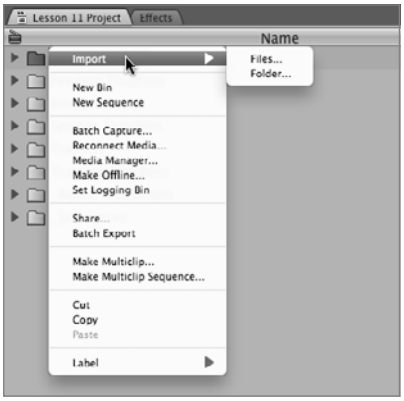
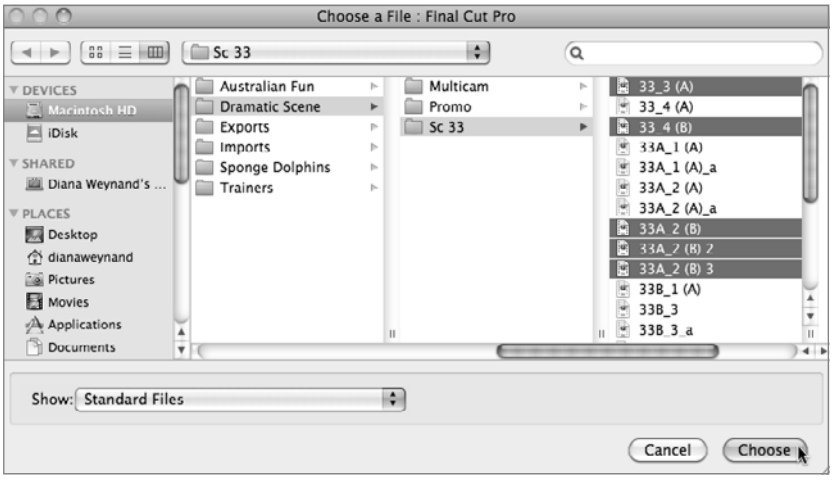


- If you added the Import File button to your Browser button bar for easy access, click it.

2 In the Choose a File window, navigate to the file you want to import.

3 Select the file, or Command-click several files, and then click Choose.



NOTE ▸ When you import a file into FCP, any alpha channel that was attached to it will be brought in with the image as well.

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To import a file folder:

You may have organized your media files into individual folders on your desktop, for example, combining music tracks or all your graphic images into a single folder. If you want to import an entire folder of media files, the process is very similar to importing a single file.

1 *Do one of the following:*

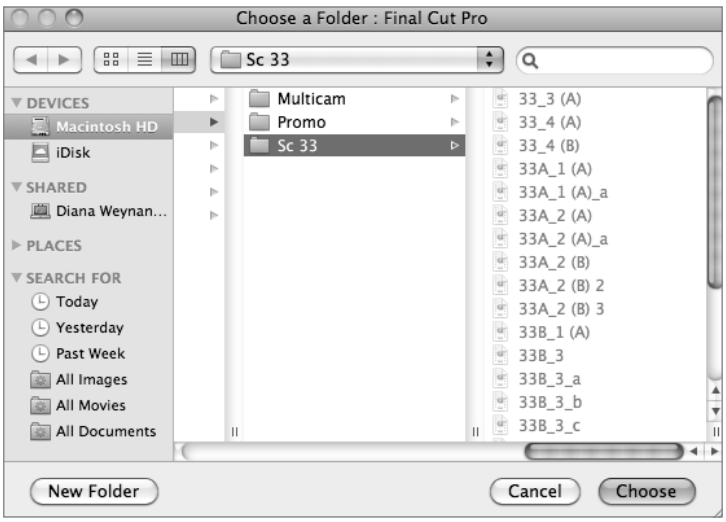
- Choose File > Import > Folder to import a folder of files.

TIP FCP does not have a native keyboard shortcut for choosing File > Import Folder. However, you can create a new keyboard shortcut, such as Shift-Command-I, and map it to your customized keyboard layout.

- Control-click in the Browser, or on a bin, and choose Import > Folder from the shortcut menu.
- If you added the Import Folder button to the Browser button bar, click it.

2 From the Choose a Folder window, select the folder you want to import, and then click Open.

When you use the Import Folder option, all files within that folder will be imported.



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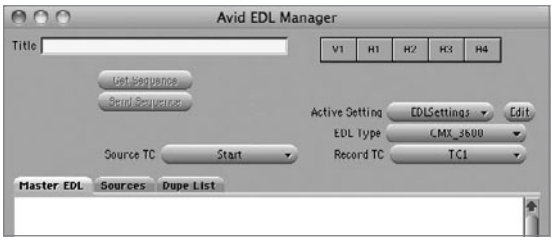
TIP A third option is to use the drag-and-drop approach. In the Finder window on the desktop, you can preview your files in Column view, then select both files and folders, and drag all of your selections at one time into the Browser window. You will, of course, have to arrange your interface to see the Browser and Finder windows at the same time.

Importing EDLs and Batch Lists

Edit Decision Lists, or EDLs, are one form of exchanging edit lists. You can export EDLs and batch lists from Final Cut Pro and then import them into Avid, and vice versa. Of course, once you have imported an EDL from another system, you will have to recapture or relink your clips.



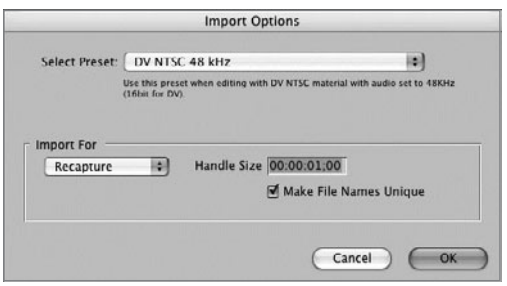
Avid's EDL Manager

To import an EDL:

In FCP, importing an EDL creates a new offline sequence along with an accompanying bin named "Master Clips for *sequence name*," with the master clips for the media that's in the new sequence.

1 *Do one of the following:*

- Choose File > Import > EDL.
- Control-click in the Browser and choose Import > EDL from the shortcut menu. An Import Options dialog appears in which you can choose the appropriate settings for the EDL you are importing.



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2 Make the following settings choices:

Select Preset—Determine the capture codec for the clips in the EDL.

Import For: Recapture—Use for EDLs from linear editing systems or non-QuickTime standard nonlinear editing systems. It can automatically add handles to clip length.

Import For: Reconnect—Use when files are already on disk and you simply need to link to them.

Import For: Custom—Use when you want to customize your settings.

3 When the Choose a File window appears, navigate to the EDL and click Choose.

NOTE ▶ When you import an EDL, you do not need to create a separate batch capture list. You can simply batch capture the clips in the "Master Clips for *sequence name*" folder.

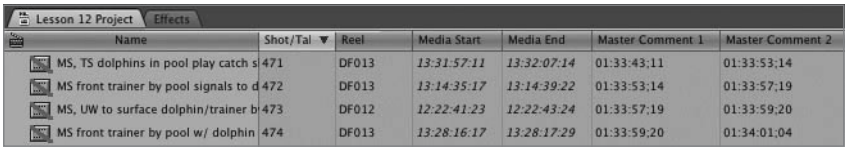
To import a batch list:

You can also create a batch list or logging list on another system, in a word processing program (even SimpleText will do), or a spreadsheet such as Excel or Numbers, and import it directly into FCP. Make sure the document is not saved as RTF (rich text format). Once imported, you can capture and edit your material in FCP. The primary point to remember when creating a batch list is that any column heading used in the list must match those in the current Browser or bin column layout, and all of the information must be delineated by tabs, not spaces.

1 Make sure the column headings in the batch list match those of the Browser columns. They do not have to be in the same order as the Browser column heads.

Shot/Take	Reel	Media Start	Media End	Master Comment 1	Master Comment 2	Name
471	DF013	13:31:57:11	13:32:07:14	01:33:43;11	01:33:53;14	MS, TS dolphins in pool play catch slo-mo
472	DF013	13:14:35:17	13:14:39:22	01:33:53;14	01:33:57;19	MS front trainer by pool signals to dolphin
473	DF012	12:22:41:23	12:22:43:24	01:33:57;19	01:33:59;20	MS, UW to surface dolphin/trainer by pool
474	DF013	13:28:16:17	13:28:17:29	01:33:59;20	01:34:01;04	MS front trainer by pool w/ dolphin

Text doc with tab-delineated columns


Lesson 12 Project
Effects
Name
Shot/Tal
Reel
Media Start
Media End
Master Comment 1
Master Comment 2
MS, TS dolphins in pool play catch s 471 DF013 13:31:57:11 13:32:07:14 01:33:43;11 01:33:53;14
MS front trainer by pool signals to d 472 DF013 13:14:35:17 13:14:39:22 01:33:53;14 01:33:57;19
MS, UW to surface dolphin/trainer b 473 DF012 12:22:41:23 12:22:43:24 01:33:57;19 01:33:59;20
MS front trainer by pool w/ dolphin 474 DF013 13:28:16:17 13:28:17:29 01:33:59;20 01:34:01;04

Text imported as batch list and now ready for capture

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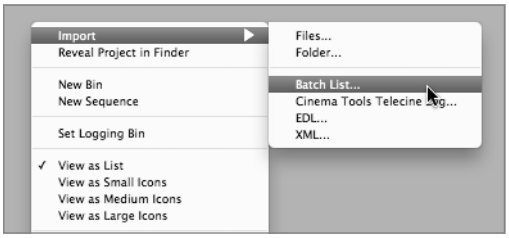
2 *Do one of the following:*

- Choose File > Import > Batch List.
- Control-click in the Browser and choose Import > Batch List.



3 Select the batch list from the Choose a File window and click Choose.

When the list is imported into the Browser, the clips will appear as offline clips ready for capturing or recapturing.

TIP When you are ready to batch capture the clips, select them and choose File > Batch Capture, or press Control-C. Choose from the options in the Batch Capture window and click OK.

Importing Sequences from Avid

One of the most effective methods for transporting your work from Avid to Final Cut Pro is to use third-party software from a company called Automatic Duck (www.automatic-duck.com). Automatic Duck's "Pro Import FCP 2.0" plug-in takes advantage of the FCP XML exchange protocol to import a sequence, with most effects included. With this software, you get a much bigger jump on continuing or converting projects from Avid to FCP than if you were working with just an EDL.

NOTE ▶ If Automatic Duck Pro Import FCP 2.0 is installed on your computer, it will appear under your File > Import options.

Some of the Avid effects that will carry through in the Pro Import FCP translation include picture-in-picture, resize including keyframes, superimpose, speed changes, dissolves, freeze frames, flops, and flips. You can also import pans, audio clip levels, and audio automation gain keyframes, as well as keyframes for many effects.

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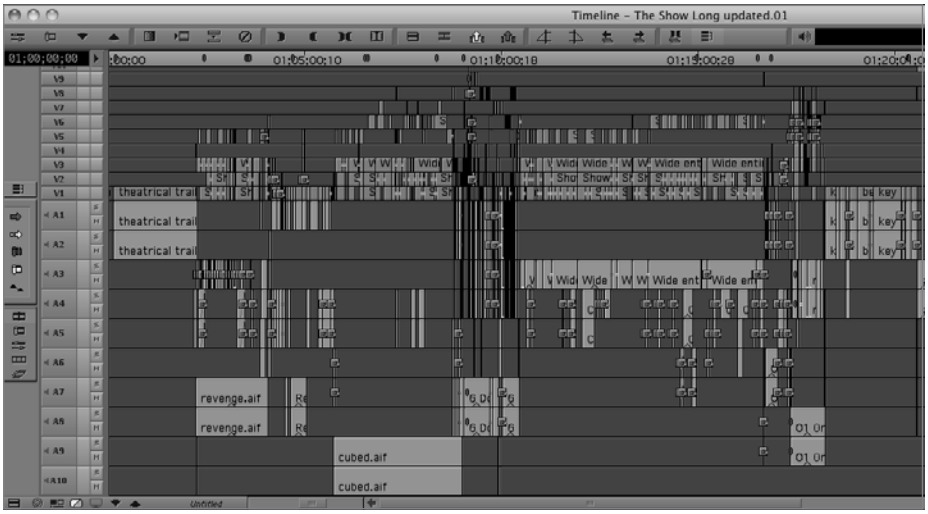
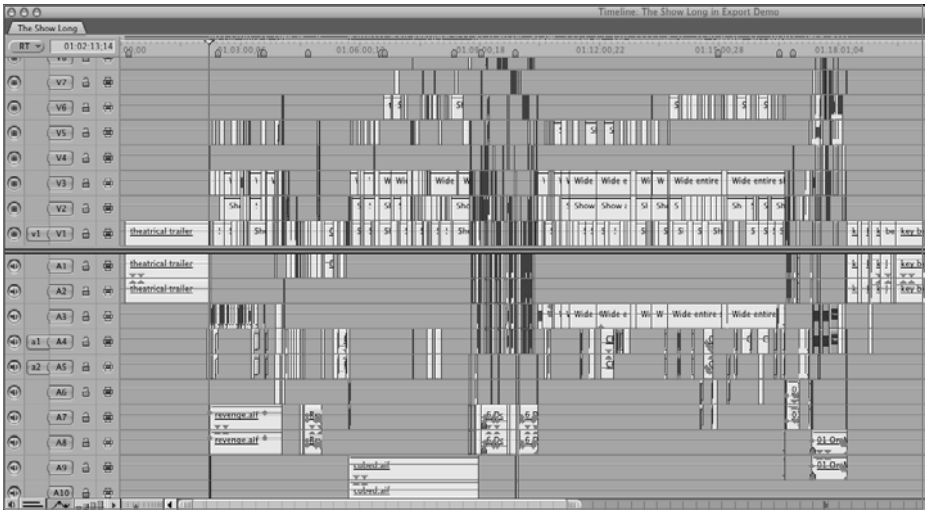


Avid sequence



FCP imported sequence from Avid ready for capturing—prepared with Pro Import FCP 2.0

Reconnecting Media

In nonlinear editing systems, clips can go offline or become disconnected from their media files, and you'll need to relink them. This is true in Final Cut Pro as well as in Avid. Where Avid's terminology to connect a clip to a media file is "relinking," the FCP terminology is

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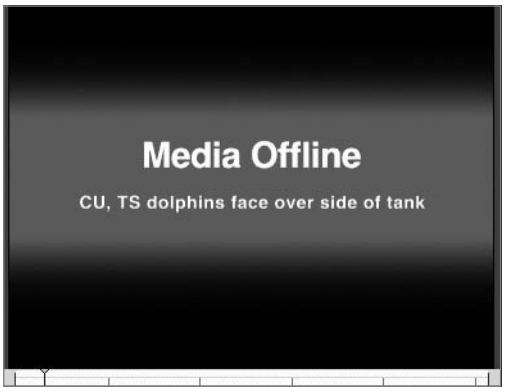
"reconnecting media." You can use this function to reconnect a single clip or a group of clips, such as from an imported EDL.



FCP offline clip in the Canvas

To reconnect project clips:

When you open a project, if FCP cannot find media files associated with that project, an Offline Files window appears, indicating how many files went offline and whether they were media files or render files. Here you have three options. You can click Continue and reconnect the files at a later time from within the project; or, if you no longer want to use the offline files in the project, you can select Media Files in the Forget Files section and then click Continue, and Final Cut Pro won't ask you to reconnect these files in the future; or you can click Reconnect to begin the reconnection process.

Offline Files
Some files went offline.
Some of the media your project references have either changed, moved, or gone away. You can either reconnect these files, or continue with them being offline.
Forget Files:
Media Files
21 Offline
Render Files
0 Offline
Reconnect...
Continue

1 In the Offline Files window, click the Reconnect button.

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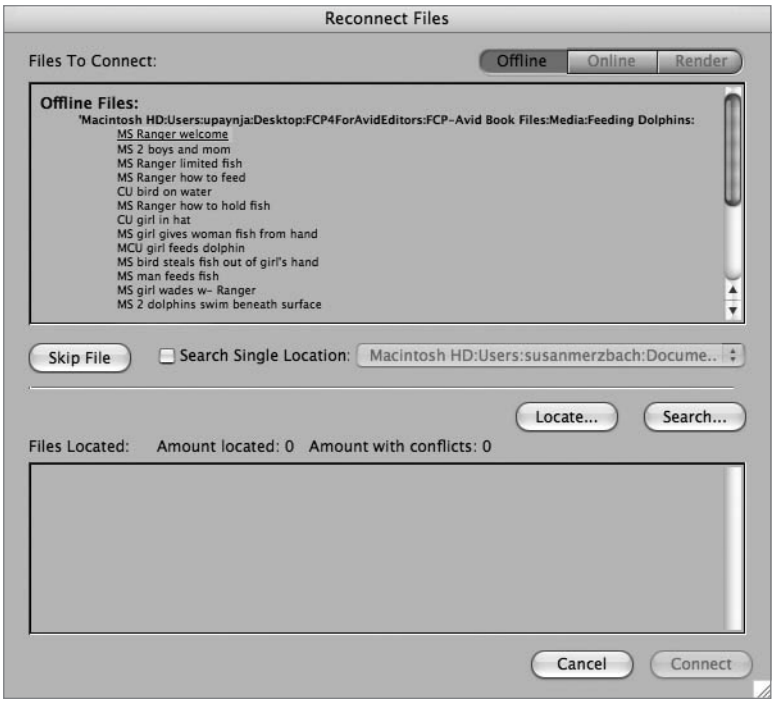
The Reconnect Files window appears. In the Files To Connect pane, the offline files are listed beneath the path of the previous location for these files.



2 In the Reconnect Files window, *do one of the following:*

- Select the Search Single Location checkbox and choose a directory from the pop-up to limit your search to a single location.
- Click the Locate button to manually browse for the missing files.
- Click the Search button to have Final Cut Pro conduct an automatic search for all the missing files in the specified location.

3 In the Reconnect window, make sure the correct media file is selected. If there are other offline files in this same location, select Reconnect All Files in Relative Path at the bottom of the window, then click Choose.

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The Reconnect Files window will reappear. Any clips from the Files To Connect list that have been found in that location will be listed in the Files Located pane at the bottom of the window. You can click Locate or Search again to find any remaining offline files in other locations, and they will be added to the list in the lower pane.

4 Click Connect to connect all located files.

To reconnect clips in the Browser or Timeline:

Within a project, you can reconnect a single clip or group of clips either in the Browser or the Timeline. Once you initiate the Reconnect dialog, the process is the same as the previous steps.

1 Control-click the clip in the Browser or Timeline and choose Reconnect Media from the shortcut menu. To reconnect several clips at once, select them first, then Control-click one of the selected clips.

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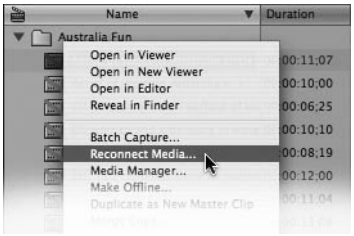
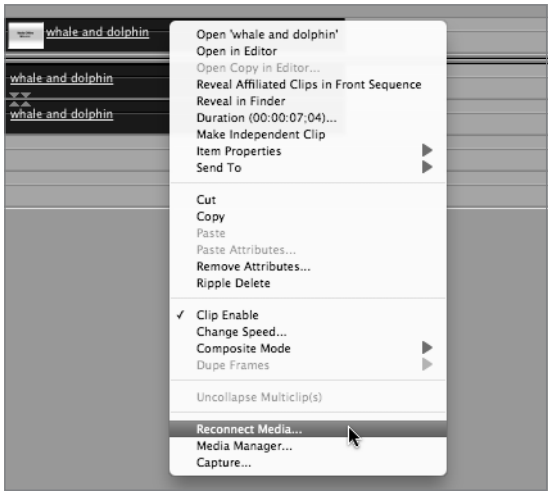


Browser shortcut menu



Timeline shortcut menu

2 When the Reconnect Files window opens, search for the file or files using one of the search options.

FCP begins searching for the clips on the available drives.

Importing Graphics

The topic of importing graphics brings up the issue of pixel ratio and square pixels versus nonsquare pixels. Computers and graphics programs display square pixels, whereas interlaced standard definition digital video uses nonsquare pixels. For high-definition interlaced and progressive work, the world is square pixels in both your image editor and in FCP. The same consideration for pixel aspect ratio applies to Final Cut Pro as it does to Avid. In Avid's Import Settings dialog, you must choose how you want to handle the graphic you are importing. FCP will read the graphic's aspect ratio and automatically compensate for the change in pixel aspect ratio prior to importing it, allowing you to adjust it afterward if necessary. But in either program, first you must prepare the graphic in the correct aspect ratio.

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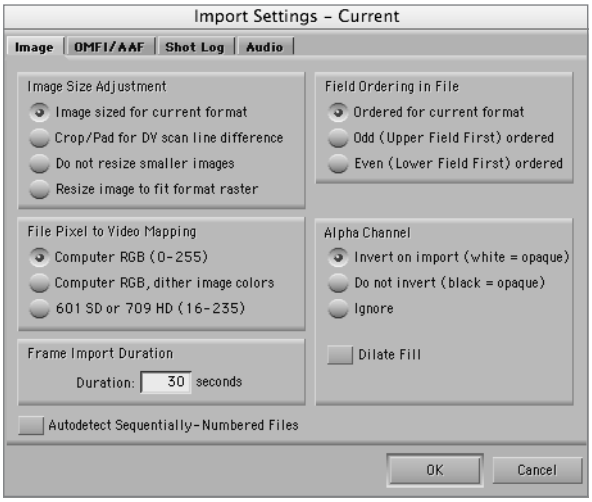
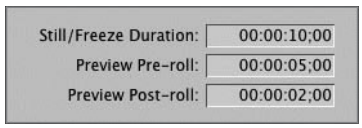


Similar to Avid's Single Frame Import duration in the Import Settings pop-up, FCP imports still images with a 2-minute length and a default 10-second marked duration. The marked duration is in the middle of the clip and allows for transition handles. You can change the default marked duration in the User Preferences Editing tab at any time prior to importing still images.

TIP If you are building a sequence with several graphics, and you know you will be editing 1 second from each graphic, change the Still/Freeze Duration to 1 second before you import those images and you won't have to mark them before editing.

Avid's Single Frame Import duration field



The FCP Still/Freeze Duration in User Preferences Editing tab

To create and import a graphic file:

If you're creating a graphic in Photoshop for FCP DV-NTSC editing, you will need to end with an aspect ratio of 720 x 480 pixels, or 4:3. If you want to zoom and enlarge the still image or add pan-and-scan effects in FCP, use a multiple of the format's dimensions to increase its size. For example, 1440 x 960 would yield a 2x enlargement of a 720 x 480 image. To compensate for the square-to-oblong pixel difference, *do the following:*

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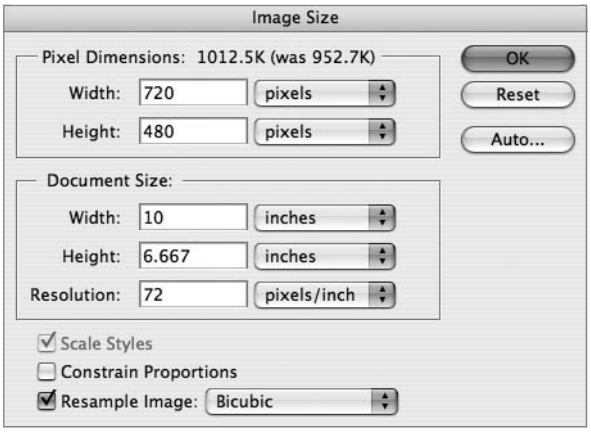
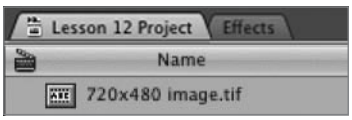
1 Create a file in your graphics program with an image size of 720 x 534.

NOTE ▶ When importing an oversized graphic, such as 1440 x 960 pixels, set the image size measurement from Pixels to Percentage, and apply 90% to the height readout.

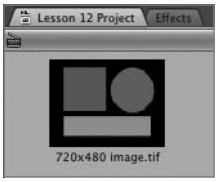
2 Before leaving the application, change the image size to 720 x 480. Make sure that you deselect the Constrain Proportions checkbox. Click OK, then save your resized document, which you might rename with an "NTSC" or "_PAL" suffix for convenient identification.



3 In FCP, choose File > Import > Files, and import the 720 x 480 image.



Graphic icon in View as List



Graphic icon in View as Large Icons

In the Browser list view, a generic graphic icon represents the image. In one of the icon views, you see a thumbnail of the graphic image. In the Viewer or Canvas, the image will look like the original image you created in your graphics program.

4 After you edit this clip into a sequence, choose Sequence > Settings, or press Command-0 (zero), and click the Video Processing tab. From the "Process Maximum White as" pop-up menu, choose White if you want to conform to broadcast standards

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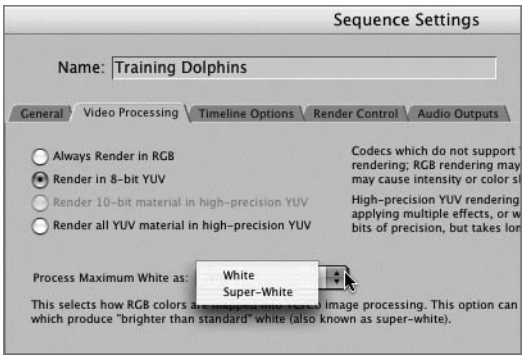
and view white at 100 units in the FCP waveform monitor, or choose Super-White if you're working within DV.

NOTE ▶ Super-white, at 109 units, is above broadcast safe limits, but is fine if you're staying within the DV realm.



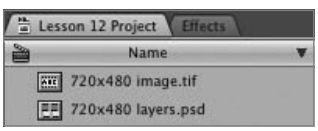
TIP To prepare any graphic for a sequence that uses nonsquare pixels (both NTSC and PAL versions of DV and SD), divide the video format frame's height by 0.9 to derive the correct height value of your composition frame, and then bring the photo scan into it or build the graphic within that file. For example, for DV-NTSC, 480 divided by 0.9 is 534, whereas NTSC-601 would be 486 pixels divided by 0.9, which is 540. Graphics for HD formats, which use square pixels only, can be created at the same aspect ratio as the sequence (for example, 1280 x 720 or 1920 x 1080).

To import multilayered images:

Working with layered Photoshop files in Final Cut Pro is very easy. You can even import multilayered images created in Photoshop into FCP without merging their layers. As in newer Avid systems, layers from Photoshop remain discrete in FCP as long as you saved the image file as a Photoshop document with the .psd file extension.

1 Create a multilayered file in Photoshop with the .psd extension.

2 Import that file using any one of the importing methods described earlier.



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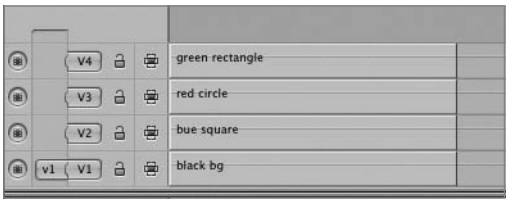
When the multilayered Photoshop image is imported, FCP creates a sequence to contain the layers. The sequence takes on the frame size of the graphic image itself.

3 In the Browser, double-click the graphic sequence icon to open the graphic in the Timeline.



In the Timeline, the individual layers of the graphic appear as separate tracks in the sequence. You can apply motion effects or filters to the individual clips, keyframe individual tracks, and turn visibility off or on.

4 To edit a multilayered graphic into a sequence, drag the sequence icon from the Browser into the Timeline. Or you can drag the sequence into the Viewer, mark it, and edit it using any of the edit options.

This edits the graphic as a nest into the current sequence.

NOTE ▶ As in Avid, when you import a layered Photoshop image into FCP, you will lose Photoshop effects, such as layer mask, drop shadow, and all other layer effects. To include these effects, rasterize or merge those layers before importing.

Using the External Editor

Not only can you import multilayered files from Photoshop, but you can also open files in Photoshop directly from the Timeline, using the External Editor function. This function allows you to go back to the application that was used to create the file and then make changes; when you save the changes, they will be reflected in the current sequence automatically. You can launch the program you have designated as the external editor right from the FCP Timeline.

You can choose three types of external editor: one for still images, one for audio files, and one for video files. You can also specify which application you want to use as the external editor for each category. The setup options are on the External Editors tab of the System Settings window (Shift-Q).

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NOTE ▶ Do not set Motion as the external editor for video files, or FCP will attempt to open LiveType projects in Motion. If you do not set specific applications as external editors, the defaults will be Photoshop for still images, Soundtrack Pro for audio files, and LiveType and Motion files will each open their respective files as expected.

To access the external editor from the Timeline:
Do one of the following:

- Control-click a clip in the Timeline and choose Open in Editor from the shortcut menu.
- Choose View > Clip in Editor.
- Press Option-Return.

The external editor can eliminate the need for some of the importing and exporting that was done in the past. However, you need to keep a few things in mind. First, the external editor must be able to read the type of file that you are using, or (ideally) be generated from that application. If you have to convert the file, this function will not work. Second, when working with multilayered images using Photoshop as the external editor, you can alter layers individually without a problem, but you must not add or delete any layers, nor change the layer order, because FCP won't be able to track them. If the file needs extensive additions, consider reimporting the item as a new file.

Working with Alpha Channels

Final Cut Pro can import and export files that contain an alpha channel that defines an image's transparency. In fact, any clip with an alpha channel enhances the ability of FCP to employ Timeline composite blend modes and travel mattes, which provides tremendous creative potential (see Lesson 9). For the image and its alpha channel to be displayed

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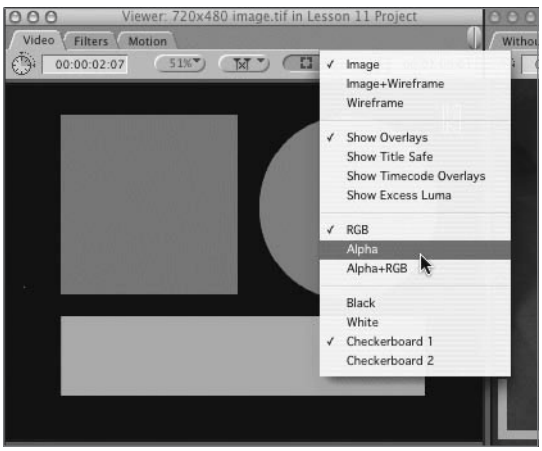
properly after being imported into FCP, you must make the correct alpha channel selection so that FCP can read the file correctly. In Avid, you can choose between Use Existing, Invert Existing, and Ignore.

FCP recognizes three types of alpha channels:

- **Straight**—Composited with just the pixels of the image and no background
- **Black**—Composited against a black background
- **White**—Composited against a white background

If you're unsure whether an image has an alpha channel attached to it, open the clip in the Viewer and access the View pop-up menu. Choosing Alpha will display the alpha channel of the selected image, if there is one. You can also press Shift-W in the Canvas or Viewer to cycle through RGB, Alpha, and Alpha+RGB displays.



You can find the alpha channel type of the current image on the Format tab of the Item Properties window (Command-9).

To choose the alpha channel type:

1 *Do one of the following:*

- Select the clip, choose Modify > Alpha Type, and then the type of alpha channel.

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- Select the clip in the Timeline, Control-click to display the shortcut menu, and choose Item Properties > Format. In the Item Properties window, Control-click the Alpha category under the V1 column.

- Select the clip, press Command-9 to bring up the Item Properties window, and Control-click in the Alpha category under the V1 column.

2. Choose the way you want FCP to handle the alpha channel.

Sending Files to Other Applications

With Final Cut Pro 6 and later, you have the ability to send an edited clip from a sequence directly to one of the Final Cut Studio applications, such as Motion or Soundtrack Pro. Once in that program, you can add effects or make changes to the clip, save those changes, and then roundtrip or return to FCP to see the changes updated automatically in the current sequence.

To send a clip to a Final Cut Studio application:

1. In the Timeline, Control-click the clip you want to send. In the shortcut menu, choose Send To and, from the submenu, choose the appropriate application.
2. When the application opens, make changes to the clip and save those changes.
3. Return to FCP to see the changes.

NOTE ▶ If you pass the file to an artist to make changes, you must update the external file on its return. To update an external file, leave FCP by switching to another application, such as the Finder, then return to FCP to force a refresh or relink to the externally modified file.

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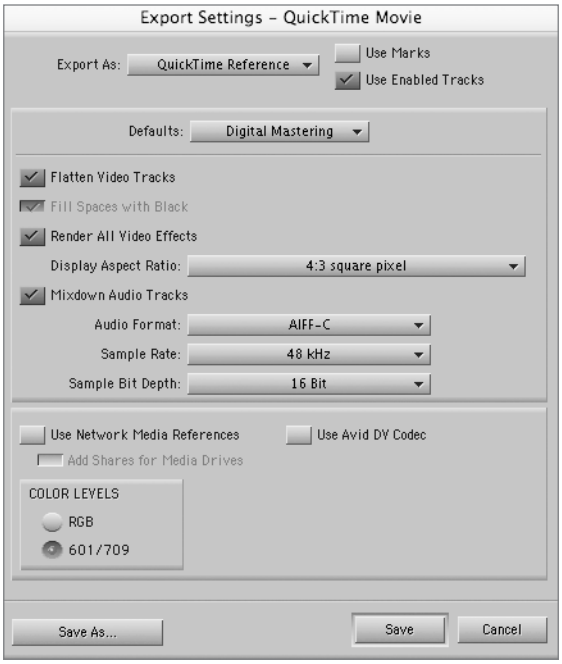
Sharing Your Sequences

QuickTime is the backbone of media export in Final Cut Pro. FCP uses the QuickTime format to export audio, video, and even still frames. As in Avid, you can export your project or media from Final Cut Pro in many ways. With FCP 7, the Share dialog makes it simple to export clips and sequences to ProRes codecs—and any QuickTime media format—as well as publish directly to destinations such as YouTube, MobileMe, and AppleTV. Rather than get caught up in choosing the correct compression settings for your exports, you simply choose your target destinations, such as Blu-ray or YouTube, and Share chooses the best settings for those destinations.



Avid's Export Settings window

Using the Share dialog in Final Cut Pro 7, it's a snap to perform single or multiple exports of sequences or clips. Export in FCP 7 carries several advantages over Avid export (which requires making and activating separate Export modules in Settings) and even improves on the FCP traditional QuickTime Export options (discussed in the following section.) And best of all, when using Share, you can go back to work editing—even while multiple jobs are busy being encoded—due to Share's background rendering capability.

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Use Share to instantly export a sequence to a variety of formats as a background process.

To export a single clip or sequence:

You can access the Share dialog to export a clip or sequence from the Browser, the Viewer, or from the Timeline.

1. To share a single clip, open it in the Viewer. To share a single sequence, open it in the Timeline, or select it in the Browser.

2. With the appropriate window active, *do one of the following*:

   - Choose File > Share.
   - To access the keyboard shortcut, press Command-Shift-E.
   - In the Browser, Control-click the clip or sequence and choose Share from the shortcut menu.

NOTE ► You may see a different target destination or filename in your Share window than in the preceding figure. The Share window displays the most recently used target information in each system. To change the filename, select the current name and press Delete. Then type the new filename.

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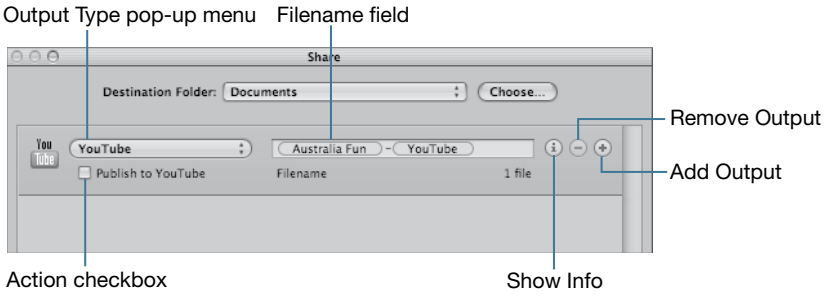
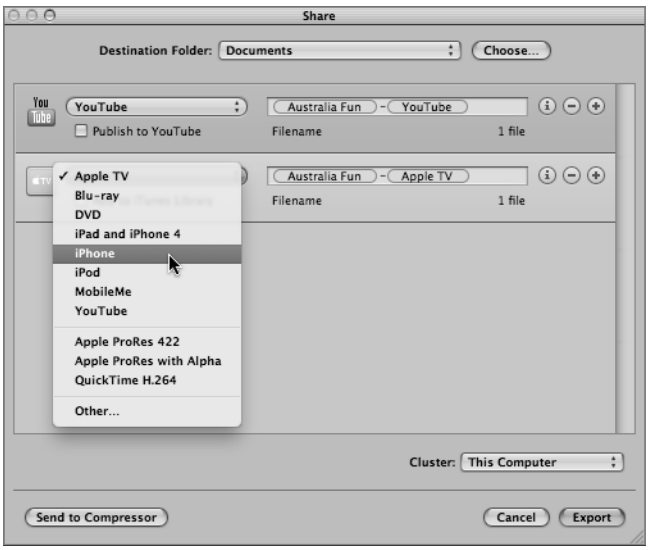


The clip or sequence is placed in the Filename field of the Share window. Notice that there are no visible compression settings, just a target destination: YouTube. FCP will use the best settings for each target output type.

3 To choose a location for the new file, in the Destination Folder area, click the Choose button and navigate to the desired destination.

4 To add an additional format or output type for the clip or sequence, click the Add Output button (+) to the right of the Filename field.

5 From the Output Type pop-up menu, choose another output. To increase your selection, from the pop-up menu, choose Other.



6 After adding the desired outputs, select the output type for each output and click Export.

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NOTE ▶ If you see a format you don't want to export, click the Remove Output button (–) for that output.

FCP will create separate files for each destination and include the destination or format type in the name of the file.

To export multiple clips or sequences:

You can also use the Share dialog to export multiple clips or sequences from the Browser. When you choose to export multiple items, you can combine the sources into one, or export the items as separate sources.

1 In the Browser, select the clips and/or sequences you want to export. Then *do one of the following*:

- Choose File > Share.
- Control-click one of the selected items and choose Share from the shortcut menu.
- Press Command-Shift-E.

When you select several items to export, Share displays a dialog in which you can choose to export the items as separate sources, or combine them into one long source.

Share: Multiple Sources
Multiple items have been selected for export.
Export as separate sources.
Combine sources into one source:
All sources will be conformed to the settings of the first source.
Custom Name: Australia Dolphins
Total Duration: 00:05:31;25
Add chapter markers at the beginning of each source
Name markers with: Source Name
Cancel
OK

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2 Choose the appropriate option and click OK.

3 Choose the destination where you want to save the file.

4 From the Output Type pop-up menu, choose the desired output.

TIP To view the compression settings for a specific output, click the Show Info button for that output.

5 To add another output type, click the Add Output button next to the Filename field, and from the Output Type pop-up menu, choose the target format. Then click Export.

Using Other Export Options

As in Avid, you have several choices in FCP to export via QuickTime. In addition to sharing your sequence to a variety of destinations, Final Cut Pro has other export options that allow you to choose a preset format and customize the settings. For example, you may want to export your sequence using its current settings; on another occasion, you may need to convert your sequence audio to a WAVE file, or extract a still image—such as a TIFF or JPEG file—from one of the video clips. Each of these export options, which are accessed by choosing File > Export, can be customized to achieve the result you want for your project's needs.

You can also export movies of your material; batch lists of your media, EDLs, or OMF files; output stills from video to use in graphics preparation; use third-party software to export an entire sequence to Avid; or employ Apple Cinema Tools to output film cut lists, change lists, and more. These options are discussed later in this lesson.

To export using QuickTime Movie:

The Export > QuickTime Movie option provides a simple, convenient way to export the current or selected sequence. The beauty of this option is that you can export a sequence without duplicating the media, which creates a smaller file size. You can also use this option to export a sequence for use in DVD Studio Pro (or iDVD), and include DVD compression and chapters markers, as well as markers to use in Soundtrack Pro.

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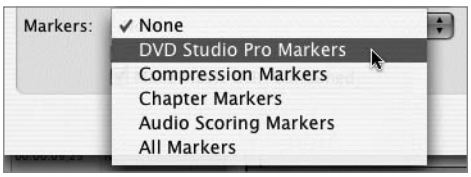
1 To identify your export selection, *do one of the following:*

- To export an entire sequence, select it in the Browser or click the appropriate sequence tab in the Timeline. Make sure there are no In or Out marks, or that they encompass the sequence head to tail.
- To export a clip or portion of a sequence, mark In and Out points in the Timeline.
- To export a clip from the Browser, select it.
- To export a clip from the Viewer, open it in the Viewer and make that the active window.
- To export desired tracks and exclude others, toggle the Visible or Audible controls on those tracks.

2 Choose File > Export > QuickTime Movie.

3 In the Save dialog, name the sequence, choose a save destination, the preset setting, what tracks you want to export, and what types of markers you want to include.



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4 Click the Recompress All Frames checkbox if you want FCP to re-render each frame of your clip or sequence before exporting. If this option is left deselected, FCP simply copies frames from existing media files into the new file with no recompression.

5 Click the Make Movie Self-Contained checkbox if you want the movie to be self-contained. Deselect it if you want to create a reference movie. Both options can be used in DVD Studio Pro and Compressor.

Selected—Create a stand-alone file you can play on another computer or burn to DVD or CD.

Deselected—Create a reference movie that does not contain any of the actual media files but points to the original audio, video, and render files that were used to create the sequence. This type of file is much smaller than a self-contained movie file, but cannot play independent of its original files.

To export using QuickTime Conversion:

The Export > Using QuickTime Conversion option is best used for conversion types that may not be accessible in the Share window. That could include creating a still image from a video clip, exporting audio tracks as WAVE files, or converting a sequence to an AVI file. All options have default settings, but you can change the options to conform to your project's specific requirements.

1 Select, open, or mark the sequence or clip you want to export.

2 Choose File > Export > Using QuickTime Conversion.

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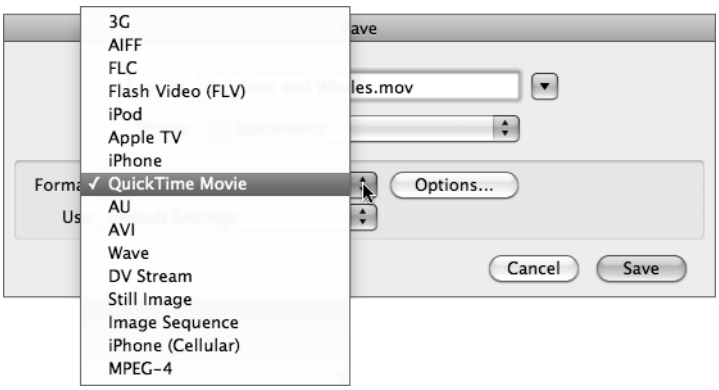
3 Name the clip and choose the save destination.

4 To select a preset codec other than the default QuickTime Movie, choose the Format pop-up menu.



You can choose from several formats, such as 3G, AIFF, AVI, Still Image, Wave, Still Image, and Image Sequence. When you choose a format, the appropriate three-letter extension, such as .aif for an AIFF file, or .wav for a WAVE file, will be added to the end of the filename.

TIP You will recognize some overlapping formats between this list and Share export options such as iPod, Apple TV, iPhone, and so on. You will get better results overall using the Share export options for the overlapping items because it uses newer conversion technology. If you can't find the conversion type you want in the Share list, use the QuickTime conversion method.

Once you choose a format, you can either select a preset setting for that format from the Use pop-up menu, or modify individual format options.

5 From the Use pop-up menu, you can choose one of the default settings for the selected format.

NOTE ▶ In any format option, the Use options will include Defaults for system settings. If option settings were recently changed, Most Recent Settings appears, which allows you to reselect those settings.

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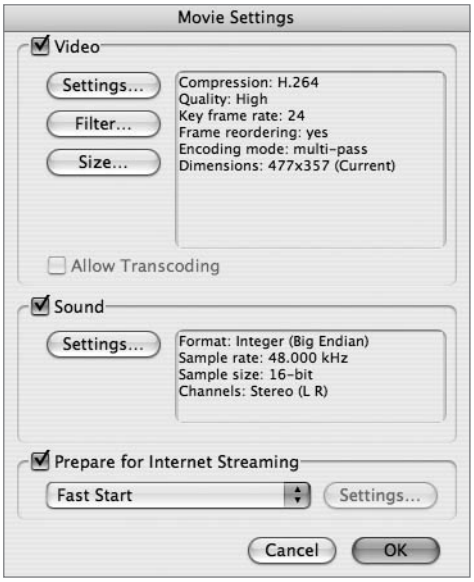
6 To fine-tune or modify the settings for a particular format, click the Options button.



Depending on the format option you choose, a settings window appears providing options for that format. If you chose AIFF, a Sound Settings dialog would appear in which you could select stereo or mono channels, change the bit rate, and so on. The different options allow you to tailor the export for your project's needs.

7 When you have selected all the appropriate options and returned to the Save window, click OK to initiate the export process.

To export a single frame as a still image:

As in Avid, one of the ways in which you can use the QuickTime Conversion export option is to export a single frame of video. It may be necessary when working with graphics to give an artist a single frame that can be used to create a comp or title. Exporting a single frame from a clip is a simple process with a variety of format output options.

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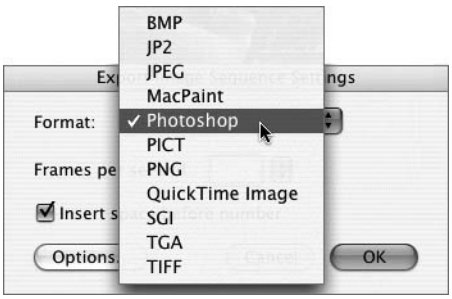
1 In either the Timeline or the Viewer, park the playhead on the frame you want.

2 To export the frame, choose File > Export > Using QuickTime Conversion.

3 Name the file and select the export destination.

4 Under Format, choose Still Image.

5 If you don't see the format you want in the Use pop-up menu, click the Options button to select Photoshop or another file format for the image.



6 When you have made the appropriate selections and are back at the Save window, click OK.

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If you have to repeat the export process for a number of frames, choose Most Recent Settings from the Use pop-up menu in subsequent save operations.

TIP You can also export a sequence of video frames by using the Image Sequence format and specifying your desired options.

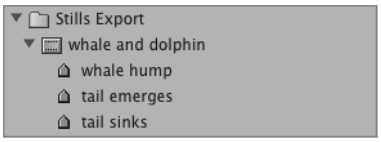
To export multiple still images at one time:

If your graphics designer is getting greedy and wants you to send her several still images from a single video clip, Final Cut Pro provides a simple yet elegant solution. You can set markers on only those frames you want to convert to still images, and then export the marked frames using one of the batch functions in FCP.

1. In the Timeline, select the source clip that contains the frames you want to export.
2. On the selected source clip, move the playhead to the first target frame, and press M to set a marker at that location. Press M again if you want to enter a marker name in the Edit Marker window. Continue setting markers throughout the selected clip.

   TIP You can repeat these two steps to set markers in additional clips and include them as part of the same export action.

3. In the Browser, create a new bin and name it *Stills Export*.
4. From the Timeline, drag the marked clip or clips into the *Stills Export* bin. Click the disclosure triangle next to the bin to reveal the clip contents, and then click the disclosure triangle next to each clip to reveal its clip markers.



5. Select the *Stills Export* bin and then choose File > Batch Export.

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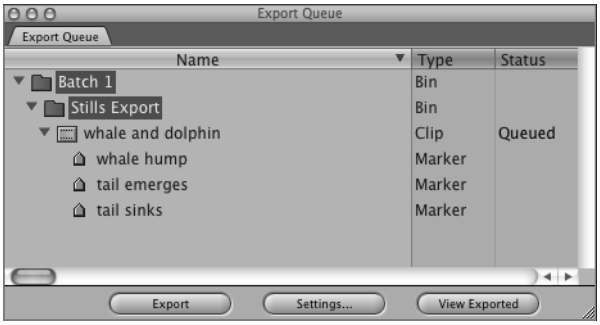
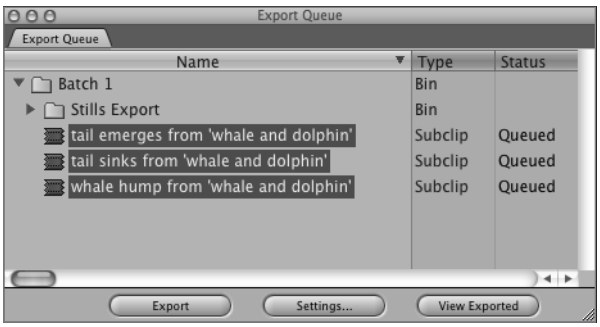
The Export Queue window opens with the Batch 1 and Stills Export bins selected.



The next step is the trick. If you remember from Lesson 6, you can convert markers to subclips by dragging them into a waiting bin. By dragging the markers into the Batch 1 bin, you can export just those marked frames.

6 Drag only the markers from beneath each clip into the Batch 1 bin. Then click the Stills Export bin's disclosure triangle to hide the clips and their markers.



Markers are automatically converted to subclips when dragged into a bin.

7 At the bottom of the Export Queue window, click the Settings button. In the Batch 1 settings window, *do the following*:

- Set the desired destination.
- From the Format pop-up menu, choose Still Image.
- Click the Options button, and in the Export Image Sequence Settings window, click the Format pop-up menu and choose the desired still image format, such as JPEG, TIFF, or PSD. Then click OK.
- In the bottom of the Export Queue window, click OK.

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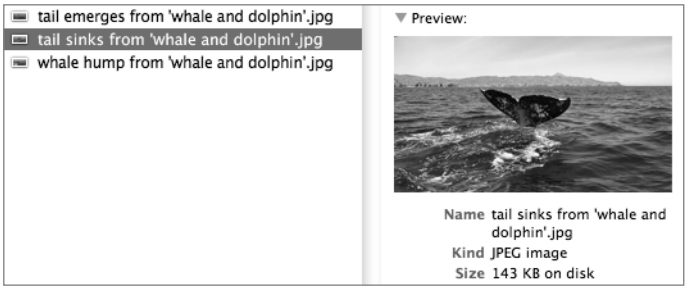
8 In the Export Queue window, and with the subclips still selected, click Export.


tail emerges from 'whale and dolphin'.jpg
tail sinks from 'whale and dolphin'.jpg
whale hump from 'whale and dolphin'.jpg
Preview:
Name tail sinks from 'whale and dolphin'.jpg
Kind JPEG image
Size 143 KB on disk

The still images appear as new media assets at the destination location.

To export for Soundtrack Pro:

Avid bundles products such as Boris Red (Avid FX) to add more of a *suite* to the central product offering, similar to Final Cut Studio 3. Soundtrack Pro, which is bundled with FCS 3, is a stand-alone Apple application that you can incorporate into your post finishing. Soundtrack Pro is a powerful audio finishing application with tools for fixing and mixing sound in stereo or 5.1 surround sound as well as for complex sound design using over 6,000 royalty-free sound effects, music beds, and music loops. With Soundtrack Pro, you can import and play a sequence you created and exported from FCP to use as a reference while you create your music and effects. When your work is done in Soundtrack Pro, you can export the sound file back into FCP.

1 Select the sequence you want to export to view in Soundtrack Pro.

TIP When exporting to Soundtrack Pro, make sure you have placed any scoring markers you may want to use in the Edit Markers dialog.

2 Choose File > Export > For Soundtrack.

The same Save window appears with the same options that come up when you export using QuickTime Movie.

3 Name the movie, set a save destination, choose the appropriate settings, and click OK.

NOTE ▶ If you have LiveType (the animating titling program) from a previous version of FCS, you can follow these steps to export a movie for use in that app as well.

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Batch Exporting Media

In addition to exporting as a single QuickTime movie, still image, or other format, you can export a group or batch of files all at one time. These files can include freeze frames, clips with speed adjustments, clips with filters applied, or an entire sequence.

You can also easily export multiple sequences at one time as a batch, even if all of the sequences use completely different codecs and quality settings. For example, you could have three sequences, one set for the DV-NTSC 48kHz codec, one set for Offline RT HD (23.98), and one set for Uncompressed 10-bit PAL 48kHz. You can export all of these sequences, along with other media, at the same time.

To batch export media and sequences:

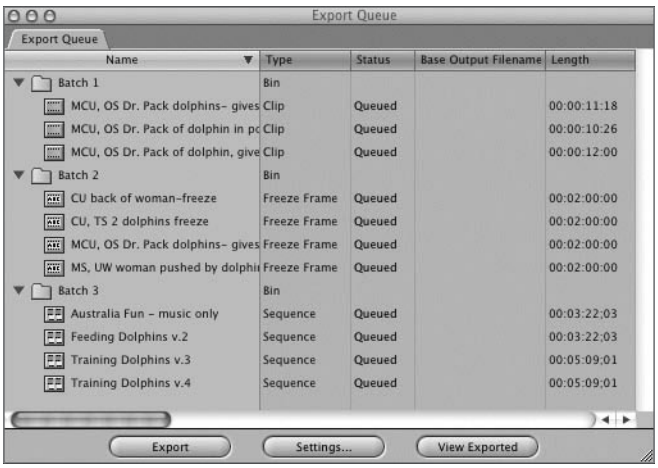
1 In the Browser window, select the clips or sequences that you want to export.

2 *Do one of the following:*

- Choose File > Batch Export.
- Control-click one of the highlighted clip or sequence icons and choose Export > Batch from the pop-up shortcut menu.

The Export Queue window opens.

NOTE ▶ You can repeat this process to add additional export items from other projects. The combination of batch export requests appears as separate bins in the Export Queue window as in the following image.



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3 Select an item and click the Settings button.

You can set your export options here just as you did using QuickTime Conversion.

4 After you choose each item's settings, click OK, then click the Export button to begin the batch export process.

The clips and sequences will be exported in the order of their placement in the Export Queue window, using their own discrete settings.

The batch export function can be a very powerful tool. Some editors use it at the end of the day to back up their projects. If you have been editing at a high resolution, you can batch export your sequences at a low resolution to create a backup, or you can take the low-resolution version of your project with you on your laptop to review your editing decisions. Recapturing media in low-res is covered in more detail in Lesson 13.

Exporting Files

In addition to exporting media files, Final Cut Pro, like Avid, exports different kinds of lists and data files, including OMF files and EDLs. Using the XML Interchange format, you can export a sequence for import into an Avid project with the help of third-party software like Automatic Duck, or even into an earlier version of FCP.

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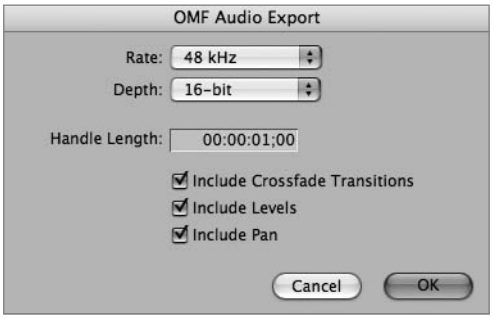
To export an OMF file:

FCP can export OMF files, which you can import into ProTools or other supported audio-sweetening applications. The OMF files that FCP creates are self-contained and retain cross fades, gain and pan automation keyframes, and edit points when imported into ProTools.

1 Select a sequence in the Browser or Timeline.

2 Choose File > Export > Audio to OMF.



3 Select the Sample Rate and Handle Length, if any, and whether you want to include cross-fade transitions and keyframe information for levels or pan.

4 Click OK.

TIP FCP OMF files are best imported into ProTools systems using DigiDesign's DigiTranslator software, as opposed to free OMF tools you may be familiar with for import from Avid systems. Always consult with your sound-design facility regarding import and export of OMF files.

To export an EDL:

Although EDLs are one of the oldest export protocols, devised for classic offline/online videotape workflows, they are also used in new ways, such as exporting sequence cut lists of video, track by track, for new post processes. Final Cut Pro, like Avid, supports all major EDL formats for import and export.

You can export the standard EDLs from FCP, and they will remain accurate. Nested sequences must be opened first to generate their own EDLs. If you try to export an EDL

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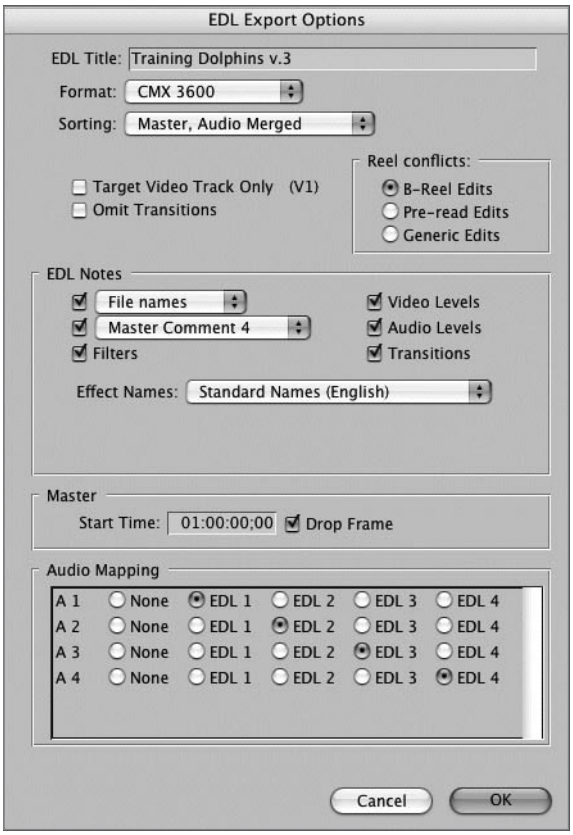
from a sequence with a nest, FCP will warn you that the nested data was not exported. Alternatively, replace any nested sequences with their clip content prior to EDL export.

1 Choose File > Export > EDL. The EDL Export Options window appears.



2 Make the appropriate selections for your EDL.

3 Click OK.

To export a batch list:

Exporting a batch list is helpful when you need to recapture your clips on a different system, to create a database of your clips in a program such as FileMaker, Excel, or Numbers, or if you just want to have a record of your clip information. As with importing batch lists, you must keep in mind that all of the columns in the bin or Browser window (wherever

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the list is being exported from)—no more, no fewer—will appear in the batch list, so tailor them for your needs. You can export a batch list from an open project or bin. If you are exporting from a bin, open the bin first as its own window.

1. Select the project or bin window and choose View as List from the shortcut menu.
2. Arrange the columns as you would like them to appear. To hide a column, Control-click the column's heading, and from the shortcut menu, choose Hide Column. To show an additional column, Control-click any column heading, and from the shortcut menu, choose the column you want to show.
3. Choose File > Export > Batch List.

TIP After you export a batch list, you can open it in a spreadsheet program and customize its layout. For steps on how to open a batch list in a spreadsheet program, see Lesson 5.

Automatic Duck for FCP Export to Avid

In addition to the FCP native exporting options, you can use third-party plug-ins to expand your exporting possibilities. For instance, Automatic Duck, the same company that creates the Pro Import FCP 2.0 plug-in to import sequences from Avid into FCP discussed earlier in this lesson, also creates an export plug-in, Pro Export FCP 4.0. This plug-in translates all of your sequence layers into one Avid-compatible OMF file. Many effects are supported during this process, such as dissolves, some motion effects, constant speed changes, freeze frames, nested sequences (with some limitations), subclips, master clip Log Notes, and audio keyframes.

NOTE ▶ For a complete list of Avid systems this software supports, go to www.automaticduck.com. If you've loaded the Pro Export FCP 4.0 plug-in onto your computer, you can access it from the File > Export options. Another plug-in that provides some of these features is Boris AAF Transfer (www.borisfx.com/AAF/).

Understanding Compressor and Cinema Tools

While this book covers only operational functions for Final Cut Pro, two other programs are bundled with FCP—along with Soundtrack Pro, Motion, and DVD Studio Pro—that you won't find in Avid systems, and you may find them valuable for exporting your projects. These are Compressor and Cinema Tools.

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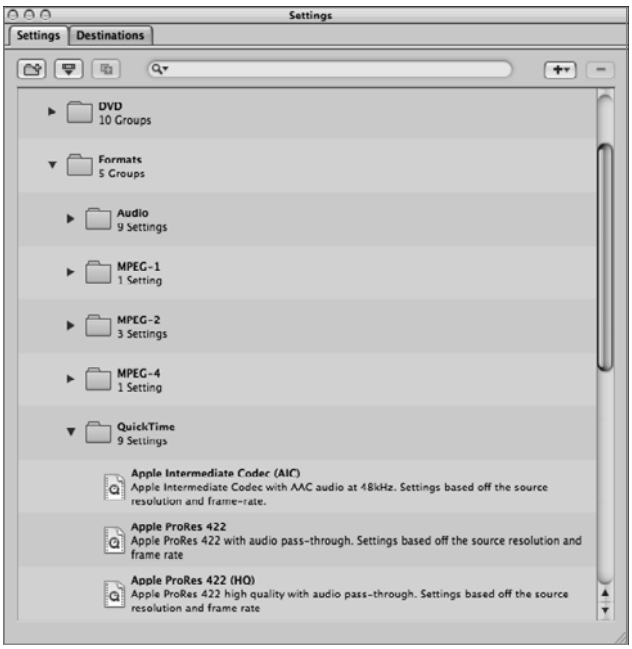
Compressor

Compressor is a video- and audio-encoding application that offers additional compression formats to create media files or sequences for online and DVD distribution. The beauty of Compressor is that it includes numerous export presets you can choose, depending on your export needs. For example, Compressor can convert QuickTime movies to the following formats:

- DVD: MPEG-1, MPEG-2 (both SD and HD), H.264, and AC-3 (for audio)
- Web: MPEG-1, MPEG-4, and H.264
- iPod: H.264

> **NOTE ▶** The H.264 format is stored as a QuickTime movie containing an H.264 video track. The Compressor AC-3 encoder is used to encode a variety of multichannel audio configurations, such as stereo or 5.1-channel surround sound, into Dolby Digital audio streams for use with DVD Studio Pro.

You can use Compressor in a variety of ways and for a number of reasons. For example, you can export a completed sequence for use in a variety of online or DVD situations, or encode files from NTSC to PAL before you begin editing. Movies can be encoded individually or in a batch.



Compressor presets list

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As a stand-alone application, you can use Compressor independently of Final Cut Pro, but you must submit QuickTime movies. If your media is not already a QuickTime movie file, you can use Final Cut Pro to create the QuickTime file, then encode it in Compressor. You can also create a Compressor *droplet* to perform specific encoding tasks. When you save settings as a Compressor droplet, you can drag media files to the droplet to transcode your media files to the droplet's settings. A more direct use of the application is to send a QuickTime movie file or sequence from FCP directly to Compressor. The advantage of this approach is that rendering occurs as part of the transcoding process, which can save you time and eliminate unwanted artifacts.

> **NOTE ▶** When you send files to Compressor and use it as a stand-alone application, you can continue editing within FCP while encoding is in progress. However, you may need to make an intermediate copy of your movie, which requires extra time, and if you're not careful, may cause some generational loss. For detailed steps to encode QuickTime movies in Compressor, refer to the Compressor User Manual, available in Compressor Help.

Cinema Tools

Cinema Tools converts your telecine files to FCP batch lists. It features a reverse telecine function that converts telecine dailies from 29.97 fps to 24 fps. It removes the extra frames added during the 3:2 pull-down process that is used when transferring film to standard NTSC video or when down-converting high-definition video shot on a 24-fps camera to standard NTSC. This function also allows you to convert PAL video at 25 fps to 24 fps. The conversion process allows you to edit in FCP at true 24 fps, just like Avid's Film Composer, providing a one-to-one reference: one digital video frame for each original film or HD frame.

Cinema Tools' database tracks information on the relationships among your original film negative, the transferred videotapes, the captured video clips in FCP, and your audio and original production sound. It also tracks film key numbers, video and audio timecode, and the opticals created when editing.

Like the discontinued Avid Film Composer, Cinema Tools can print lists from the database of the information that negative cutters, sound editors, and other members of the finishing process require to put all the film elements together to create a 35 mm release print. Additional features allow you to create dupe lists, pull lists, change lists, and missing elements lists for better list and project management.

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What You've Learned

- The Final Cut Pro QuickTime format offers a large variety of codec (compression/decompression) formats for exporting to a variety of destinations.
- FCP will import any audio, video, or movie file it recognizes without your having to specify what it is. To import, you can choose a menu option, Control-click in the Browser, or use a keyboard shortcut.
- You can import and export EDLs by choosing a menu option or Control-clicking in the Browser. Nested FCP sequences must have their own EDLs or be replaced with their clip content prior to export.
- You can create a batch or logging list in another system and import it into FCP. When imported, offline clip icons will appear in the Browser ready for batch capturing.
- The equivalent of Avid's relinking command is the FCP File > Reconnect Media command. Use it to reconnect one clip or several in the Browser or in the Timeline.
- FCP will read the aspect ratio of an imported graphic and compensate automatically.
- To compensate for the change from oblong pixels to square pixels in a DV-NTSC sequence, create the full-frame original graphics file as 720 x 534. Then, after changing the image size to 720 x 480 with Constrain Proportions deselected, save it at the new aspect ratio. Finally, import the 720 x 480 graphic file into FCP. Users of Adobe Photoshop CS may preview a preset simulating resizing when creating the document, and create a resize action, to execute a resize automatically.
- FCP allows the import of higher-resolution files for animation, and multilayered Photoshop files with all layers intact as long as they were saved with the .psd extension. Multilayered Photoshop files are imported as a sequence and open in the Timeline with each layer on its own track.
- In FCP, you can use the External Editor function to open a Timeline clip directly into the program where it was created, dedicating one external editor each for still images, audio files, or video files. Changes made and saved via an external editor are reflected in the sequence automatically.
- You can import and export clips with alpha channels, choosing one of the three types of alpha channels FCP recognizes—straight, black, or white.
- The FCP Share dialog offers a way to export one or more items in many formats at one time in the background, allowing you to continue editing.

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- The QuickTime format offers two export options—QuickTime Movie and QuickTime Conversion—as well as options that work in conjunction with the entire set of Final Cut Studio applications.
- With Export QuickTime Movie, you can export a self-contained version to create a stand-alone file you can play on another computer or burn to DVD or CD; if it's not self-contained, you will create only a reference movie containing none of the actual media but which points to the files used to create the sequence.
- With Export Using QuickTime Conversion, you can export to a variety of formats and destinations, including the Web, or to broadcast, audio files, still images, and so on.
- You can export a sequence for use in Final Cut Studio's bundled applications: Soundtrack Pro or LiveType.
- You can batch export stills, clips, or sequences, even if each uses a different codec and quality settings, and you can mark clips for multiple stills batch export.
- FCP allows you to export self-contained OMF files, which retain cross fades, keyframes, and edit points when imported into ProTools.
- A third-party plug-in by Automatic Duck allows you to export an FCP sequence and import it into Avid without an EDL, and vice versa.
- You can export FCP batch lists by selecting a project or bin window in the Browser. It will include all currently active Browser columns.
- Compressor allows you to export clips and sequences using numerous encoding presets for specific purposes and speeds.
- Cinema Tools allows you to originate in film or 24p HD, work in FCP in a 24-fps editing environment, and return to film to cut negative or to HD to assemble the master video.
- You can send a file from a sequence to Motion or Soundtrack Pro, work on the file in that application, save it, and then see the changed clip in FCP.

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Keyboard Shortcuts

Command-I	Open the Choose a File window for importing files
Command-9	Open the Item Properties window
Command-Shift-E	Open the Share dialog
Shift-W	Toggle between Alpha, RGB, or Alpha+RGB displays in the Viewer or Canvas window

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13

Goals

Use the Find command and sort capabilities

Change clip properties

Use dupe detection

Render management tips

Manage render files

Work with the Media Manager

Copy and move a project

Trim media from a project

Work with offline clips

Decompose a sequence

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Lesson **13**

Project Management

Like Avid, Final Cut Pro has many different ways to manage a project, from render and media file management to dupe detection and find options. Where Avid offers a Media tool and powerful Sort and Sift commands, FCP offers a Media Manager and powerful Find options. The purpose of these functions, whether in Avid or FCP, is the same: to maintain an efficient workflow and to maximize your resources.

The FCP Media Manager options make it easy to keep your project streamlined and free of unused media files, and the Render Manager helps you avoid getting bogged down with a lot of old precomputes, here called render files. The Media Manager also makes it easy to trim the media in your project so you're only working with the essential media you need. Consolidation behaves the same way you'd expect in Avid, with some pleasing extras.

Managing a project sometimes happens when you are ready to clear out the old and bring in the new. But there are many times when you'll need to manage clips or sequences prior to finishing or outputting. It doesn't matter when you choose to use FCP project management functions. It's only important to know you have many resources available to get the job done.

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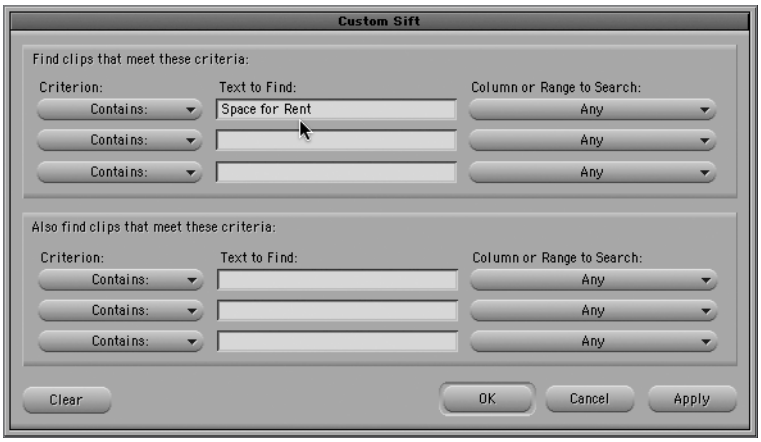
Using the Find Command

In Avid, the various Find commands are primarily focused on finding clips, bins, Locator text, text in clips, sequence gaps, or flash frames in a sequence. Finding an Avid master clip or Find Bin command is the same as the Final Cut Pro Reveal Master Clip command in the View menu.

But you can put the FCP Find command to other uses such as searching for a clip within a specific sequence or project. You can search for a clip by name or other fields, such as by timecode or file type. The FCP Find command can also be used for more complex tasks by adding search options to a criteria list. Once you've found the items, you can then delete them or make changes to them. This is also a good way to find unused media in your project. In this way FCP's Find command performs the same functions as Avid's Custom Sift feature, only the results are not limited to a single bin, or even a single project.



Avid's Custom Sift dialog

NOTE ► The Find command can search in all open projects or a specific project or even a tab in the Browser. This means you can open a clips bin as a tab and search through it.

To find clips or items within a sequence:

Finding a clip or clips in a sequence is a simple matter of knowing what you want to find and generally where you want to search for it. For example, you may need to find all the

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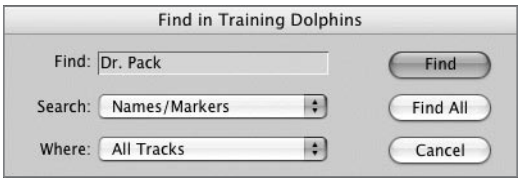
clips used in a particular scene, or find those labeled CU (for close-up) so you can make color correction changes to them as a group. In addition to searching for clips in the Timeline, you can also search to find markers or specific transitions to either change or delete them.

1 Open the sequence you want to search in the Timeline.

2 Choose Edit > Find, or press Command-F.

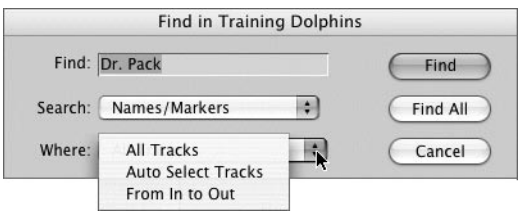
A Find dialog, titled after the current sequence, appears.



3 In the Find field, enter the name of the clip or a part of a name. In the example shown here, the search is for all the clips in the *Training Dolphins* sequence that have *Dr. Pack* in the name or marker.

4 In the Search pop-up menu, make sure Names/Markers is chosen.

5 In the Where pop-up menu, choose All Tracks. You can also search just auto-selected tracks and between In and Out points.



6 Click Find All to find all occurrences of the name you entered in the locations you specified for the current sequence.

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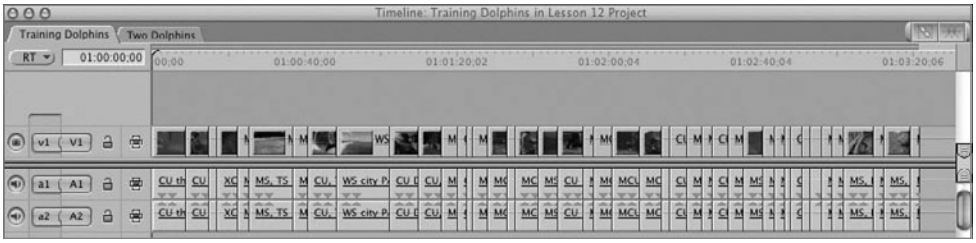
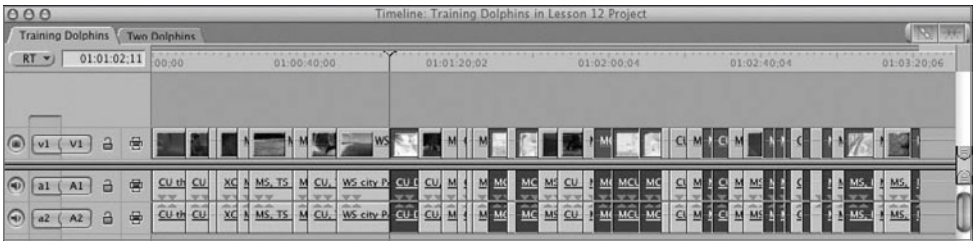


Timeline before search was activated



Timeline after Find command

When the search is complete, FCP will highlight all the items it found using the search criteria, and it will move the playhead to the first frame of the first highlighted or found clip.

TIP Being able to highlight desired clips all at once can be a real timesaver when applying effects to a group of clips.

7 To initiate another search, perhaps for a particular transition, deselect any selected clips by pressing Command-Shift-A. Then reposition the playhead at the beginning of the sequence, or at least before the search items appear in the Timeline.

8 To open the Find dialog, press Command-F. In the Find field, enter the name of a transition, such as "cross dissolve." If you want to find all cross dissolves and cross fades, simply enter *cross* in the Find field. Click Find All.

When the transitions are selected, you can press Delete to remove them from the edit points. You can also choose Effects > Video Transitions, and choose a different transition to replace those already selected.

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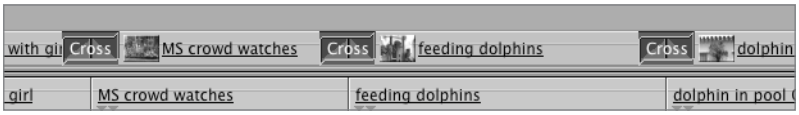
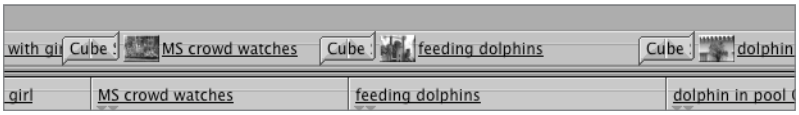


Transitions selected using the Timeline Find function



Selected transitions replaced by choosing new transition from the Effects menu

TIP You can search for markers by name content; by any word contained in the marker Comment field; or by the type of marker it is, such as compression, scoring, and so on. Unlike transitions or clips, however, markers in the Timeline ruler are not selected when you choose Find All. Instead, the playhead is moved to the first marker that contains the search criteria. You can choose Edit > Find Next, or press F3, to jump to the next marker. You can also jump to a previous marker that contains the search criteria by pressing Shift-F3.

To search within the Browser:

Similar to Avid's Bin Sort and Sift capabilities, the FCP Find dialog when applied to the Browser opens a different dialog and enables additional search criteria. In fact, all of the Browser column heads can be included in the criteria list. You can search within a project or all open projects, and you can make a bin into a tab in the Browser window and search that bin. The Effects tab can also be targeted for a search.

1. Open any projects you want to include in the search. If you want to search only one specific project, select that project's tab in the Browser.

2. If you want to search within a specific bin, Option-double-click the bin icon, and it will open as a tab in the Browser window.

   NOTE ► If you're searching a specific bin or project, it must be selected in the Browser before opening the Find dialog.

3. If you want to search through a specific sequence in a project, for example to locate any media that was not used in the sequence so you can delete it, or to find all the media clips that were used, select the sequence icon in the Browser.

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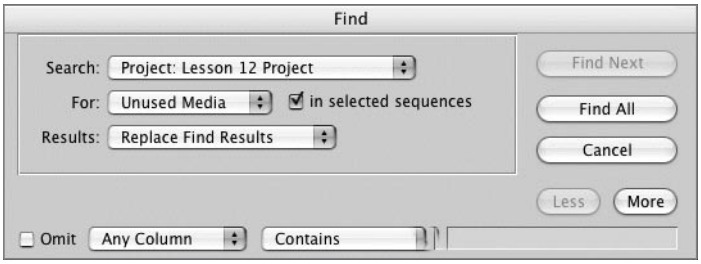
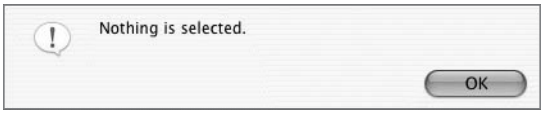
4 Choose Edit > Find, or press Command-F.

The Find window, when invoked from the Browser, appears with more options than it did when invoked from the Timeline.



5 Click the Search pop-up menu and choose where you want the search to take place. It can be within a selected tabbed bin, a selected project, all projects, or even within the Effects tab.

6 Click the For pop-up menu to choose whether your search will be for All Media, Unused Media, or Used Media. If you choose Unused or Used Media, a sequence must be selected for reference. Otherwise, you may get a warning that says "Nothing is selected."



7 Click the Results pop-up menu and choose whether you want FCP to Replace Find Results or Add to Find Results of the last search, if any. Then click Find All.

When you click Find All, a Find Results window opens with the results of your search. When you perform your first search, you will not be replacing anything that already exists in this window. But you can continue to search and replace (or add to) the contents of this window.

NOTE ▶ From the Find Results window, you can click one of two buttons: Show in Browser or Remove from Project. When you click the Remove from Project button in the Find Results window, you are only removing the clips from the project, not the media files from your hard drive.

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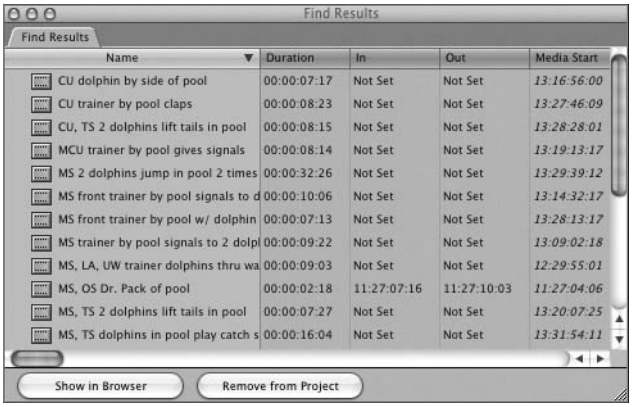

Find Results
Find Results
Name
Duration
In
Out
Media Start
CU dolphin by side of pool 00:00:07:17 Not Set Not Set 13:16:56:00
CU trainer by pool claps 00:00:08:23 Not Set Not Set 13:27:46:09
CU, TS 2 dolphins lift tails in pool 00:00:08:15 Not Set Not Set 13:28:28:01
MCU trainer by pool gives signals 00:00:08:14 Not Set Not Set 13:19:13:17
MS 2 dolphins jump in pool 2 times 00:00:32:26 Not Set Not Set 13:29:39:12
MS front trainer by pool signals to d 00:00:10:06 Not Set Not Set 13:14:32:17
MS front trainer by pool w/ dolphin 00:00:07:13 Not Set Not Set 13:28:13:17
MS trainer by pool signals to 2 dolpl 00:00:09:22 Not Set Not Set 13:09:02:18
MS, LA, UW trainer dolphins thru wa 00:00:09:03 Not Set Not Set 12:29:55:01
MS, OS Dr. Pack of pool 00:00:02:18 11:27:07:16 11:27:10:03 11:27:04:06
MS, TS 2 dolphins lift tails in pool 00:00:07:27 Not Set Not Set 13:20:07:25
MS, TS dolphins in pool play catch s 00:00:16:04 Not Set Not Set 13:31:54:11
Show in Browser
Remove from Project

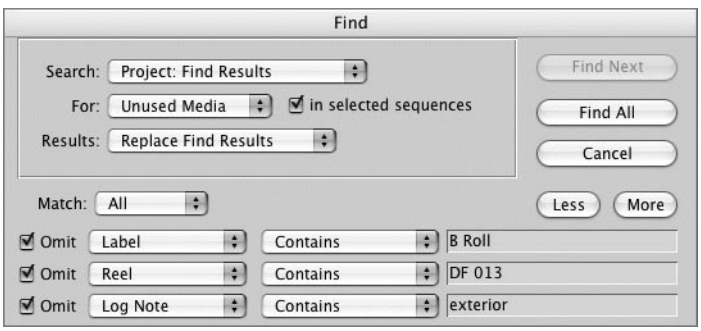
Items in the Find Results window can be copied or moved to a different location in the Browser or edited into a sequence. You can perform additional searches and combine the results, make the clips offline so they can be recaptured at a different resolution, or modify clip information in the Browser columns. The latter two options are discussed in the next exercise.

Once you have your find results, sort them! As with Avid's bins and Media tool, click any column head to create your primary sort criteria, and Shift-click additional columns to accumulate multiple search criteria.

8 To refine the search and weed out clips you don't need from this list, press Command-F again. This time, click the More button in the Find window.

Each time you click the More button, an additional criteria line appears in the Find Results window, where you add criteria from Browser column headings to fine-tune your search.

TIP To remove the last criteria line, click the Less button.



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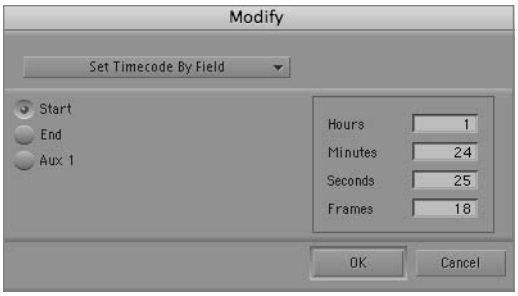
Changing Clip Properties

In Avid, when you need to change properties of a clip in your project, such as name, reel number, or timecode, you access the Modify command. From the Final Cut Pro Modify menu, you can choose several types of modifications, including changing timecode. While most clip changes are made directly in the Browser or in a bin, you can also change clip properties in the Find Results window, which is also a bin. Making global changes in FCP is very easy, but there may not be as many "are you sure?" dialogs as you are accustomed to in Avid. So enjoy, but be careful.



Avid Modify dialog

When making changes to a clip or group of clips, keep in mind that changes you make to a master clip will also be made to all affiliate clips associated with that master clip.

The following are changes that track the master/affiliate clip relationship:

- Clip Name
- Reel Name
- Timecode
- Media Start
- Media End
- Good
- Log Note
- Label
- Label 2
- Anamorphic
- Capture
- Offline
- Scene
- Shot/Take
- Master Comments 1-4

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Modifying Clip Name, Reel Number, or Timecode

There are times when you might want to rename a clip inside a project. Since FCP reconnects clips to media files using a filename, rather than reel and timecode metadata like Avid, it is more difficult to reconnect offline clips if their names differ from their associated media files. To help you maintain this relationship, there are two renaming options in the Modify menu: Rename > Clip to Match File and Rename > File to Match Clip. Both of these commands can affect one or more selected clips at the same time.

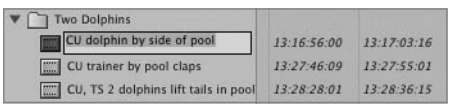
There are rare times when you'd like to modify a clip's reel number or create timecode for a clip that came from a noncontrollable device, and perhaps match that timecode to the rest of the project's ID scheme. Be aware, when you change the timecode or the reel number of a master clip or one of its affiliates in the Browser, it actually changes that information on the QuickTime media file on your hard drive.

The following Modify actions change your underlying QuickTime media file:

- Reel Number
- Rename > File to Match Clip
- Timecode
- Timecode format (drop frame or non-drop frame)

To change clip name, reel number, or timecode:

1. In the Browser or bin, make sure the view is set to View as List.
2. To change the name of a clip, *do one of the following*:
   - Select the clip, press Enter to highlight the current name, and type the new name. You can also click in the text area of a clip under the Name column as you would for any Macintosh file.



NOTE ► This method changes the clip name but not the media filename on the hard disk. While linking is maintained, it is still a good practice to modify a clip name using one of the two Rename options that follow.

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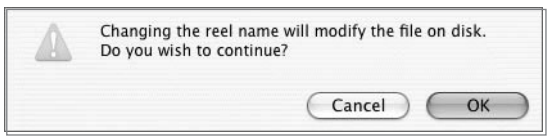
- To change the name of the project clip to match the media file name, in the Browser, Control-click the clip and from the shortcut menu choose Rename > Clip to Match File.
- To change the media file name on the hard disk to match that of the clip name in the project, in the Browser, Control-click the clip and from the shortcut menu choose Rename > File to Match Clip.

TIP You can also find these options by choosing Modify > Rename.

3 To change a reel number, drag the horizontal scroll bar in the Browser to the right until you see the Reel column heading. Click in the appropriate clip field under that heading and enter the new reel name or number. This will change your underlying QuickTime media file.

NOTE ► If you move forward with a reel change or timecode modification, you will see the following prompt reminding you the media file itself will be modified.



4 To change timecode for a clip, select the clip, then choose Modify > Timecode. The Modify Timecode dialog opens. In the Frame to Set pop-up menu, choose First to assign the new timecode number to the first frame of the clip, or choose Current to assign the new timecode to the current frame. Choose the appropriate timecode format (drop frame or non-drop frame timecode) and frame rate. Click OK. This will change your underlying media file.

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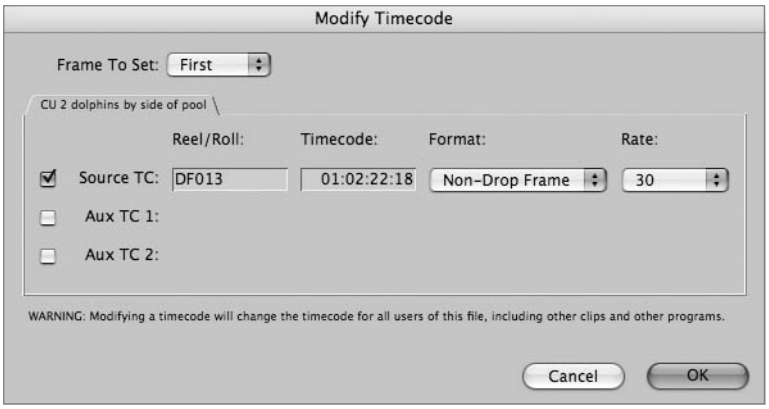
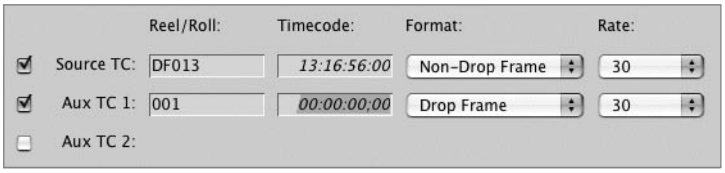
You can also change the reel number in this dialog. Remember, changing the reel number or timecode will change it on the QuickTime media file itself.


Modify Timecode
Frame To Set: First
CU 2 dolphins by side of pool
Reel/Roll:
Timecode:
Format:
Rate:
Source TC: DF013 01:02:22:18 Non-Drop Frame 30
Aux TC 1:
Aux TC 2:
WARNING: Modifying a timecode will change the timecode for all users of this file, including other clips and other programs.
Cancel
OK

5 To add an additional auxiliary timecode number to a clip, rather than change a clip's original timecode, click the Aux TC 1 or Aux TC 2 checkbox and enter the reel and timecode information in those fields.



In the Find dialog, you can use Aux TC 1 and Aux TC 2 as search criteria or even sort by those column heads when they are showing in the Browser.

TIP To sync several cameras or reels that were not recorded with the same sync timecode, or to work with multicam material, park the playhead on the frame you want to use as a reference, choose Current from the Frame to Set pop-up menu and then enter a new aux timecode number. When setting up an FCP multicam, you can choose the aux timecode as the sync reference for that source.

To make global clip changes:

Some column properties have options you can select from a pop-up menu. As in Avid bins, to access certain properties, such as reel number, you must enter a change

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to one clip manually so that the change can then be selected for a group of clips via a pop-up menu.

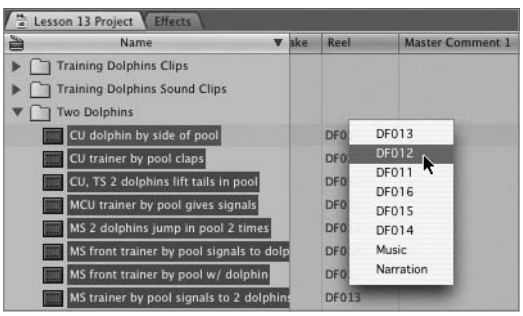
1 In the Browser, select a clip, then click in the column field for a specific property, such as Reel. You can also double-click a nonselected clip's property field.

Once a new entry has been made to that column, it becomes available via a field shortcut menu for changing other clips.

2 Either select the group of clips you want to change in the Browser or a bin, or perform a search for the clips you want to isolate to change. The latter will produce a group of clips in the Find Results window.

3 Control-click the column entry field where you want to make the change and choose from one of the available options in the shortcut menu.

For example, after changing a reel name for one clip, you can batch modify multiple selected clips by Control-clicking in the reel field and choosing the reel name from the shortcut menu.



Each column where changes can be made will give you different options in the shortcut menu. Control-clicking the In column allows you to clear all In points for all selected clips.

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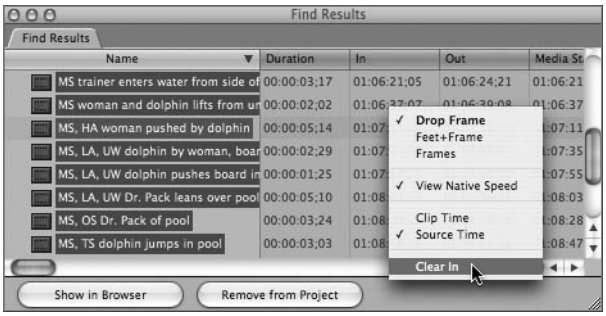
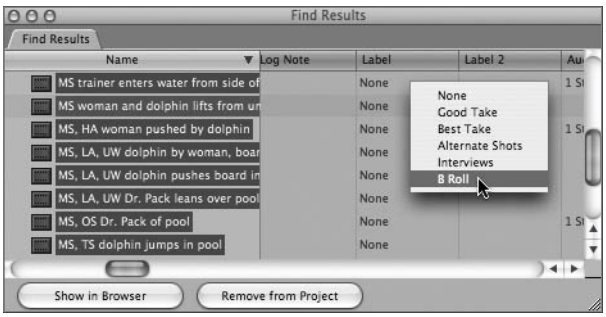


Control-clicking in the Label column brings up different preset options to label selected clips.



TIP You can undo clip changes by pressing Command-Z, even if you made the changes globally to several clips at once.

To make clips offline:

There may be times during an edit session when you want to unlink one or more clips, disconnecting the clip from its originating media file. FCP refers to this as making a clip "offline." Perhaps a clip or group of clips needs to be recaptured to improve video or audio levels. You can do this very simply in the Browser. Making an entire sequence offline to recapture at a higher resolution is covered in the "Working with the Media Manager" section later in this lesson.

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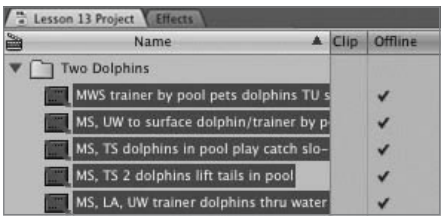
Do one of the following:

- To make one or more Browser clips offline, select the clip(s), Control-click in the Browser and choose Make Offline from the shortcut menu.
- To make Timeline clips offline, select the clip(s), choose Modify > Make Offline (Shift-D), and check the appropriate box in the Make Offline dialog.

TIP Be careful not to remove or delete any necessary media files by clicking the second or third option in the Make Offline dialog.

NOTE ▶ You can use the Find command to locate specific clips you want to make offline. You can also use the criteria to refine your search and then apply one of the above make offline actions.

Offline clips in the Browser are displayed with a red diagonal line across them indicating they are offline.


Lesson 13 Project
Effects
Name
Clip
Offline
Two Dolphins
MWS trainer by pool pets dolphins TU s
MS, UW to surface dolphin/trainer by p
MS, TS dolphins in pool play catch slo–
MS, TS 2 dolphins lift tails in pool
MS, LA, UW trainer dolphins thru water

You are now ready to recapture the media for these clips.

TIP One of the Media Manager functions allows you to recompress media files to a different resolution preset. This is discussed later in this lesson.

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Detecting Duplicate Frames

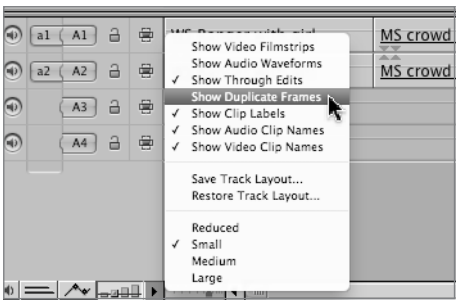
If you are working on a project that will be finished on film, you will need to know if and when you are using the same frame twice. The process of identifying those frames is called *dupe detection*. In Avid systems that have FilmScribe, you can find this option in the Timeline Fast menu. Final Cut Pro also has this option, and like in Avid, you can customize the handle length for your project. You can also use this function for a video project simply to determine if there are multiple uses of material in a sequence.

NOTE ▶ For FCP to detect duplicate frames in all clips, each clip must have a correct reel name.

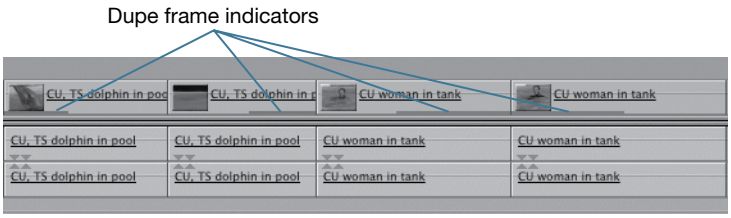
To find duplicate frames in a sequence:

1 Open the sequence in which you want to search for dupes.

2 Click the Timeline Layout pop-up menu and choose Show Duplicate Frames. You can also press Command-0 to open the Sequence Settings window, click the Timeline Options tab, and enable Show Duplicate Frames.



In the Timeline, if any clip frames are being duplicated from their first use, the same colored bar will appear in both the originating clip and the additional uses of that material. The bars are positioned on the sequence clips to indicate where the dupe frames are located.


Dupe frame indicators
CU, TS dolphin in pool
CU, TS dolphin in pool
CU woman in tank
CU woman in tank
CU, TS dolphin in pool
CU, TS dolphin in pool
CU woman in tank
CU woman in tank
CU, TS dolphin in pool
CU, TS dolphin in pool
CU woman in tank
CU woman in tank

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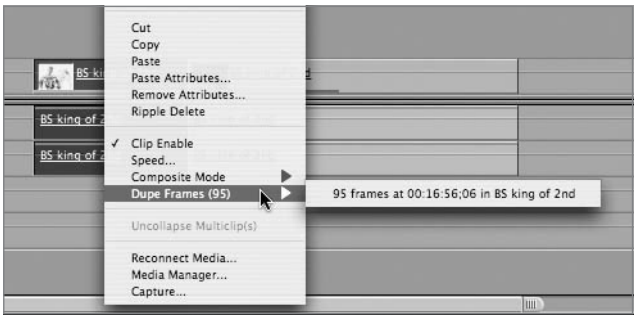
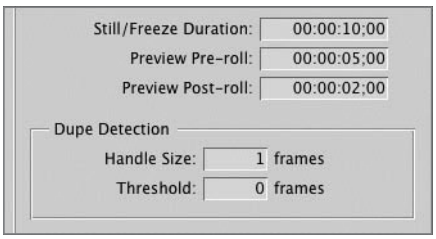
In the screen shot, the duplicate frame bars in the first and second clips indicate that the frames used in the head portion of the first clip were also used in the tail portion of the second clip. The tail of the third clip has frames duplicated at the head of the fourth clip.

3 To move to where those duplicate frames occur again in your sequence, Control-click one of the duplicate frame clips. From the shortcut menu, choose Dupe Frames and then select a clip from the submenu. This works just like finding a marker in the sequence.



4 To include handles in the frame detection, press Option-Q to open the User Preferences window and enter the desired handle frames in the Dupe Detection area.



Render Management Tips

While Final Cut Pro can play back several streams of real-time effects at once on even a moderately powerful Macintosh, there will be times when you max out your system's real-time capability or choose a combination of effects that are not real-time. As in Avid, you may feel the need to render an effect immediately to see it and evaluate it. But before you jump in and create a hefty render file, know that there are other ways to view and evaluate your effects before committing to a full render.

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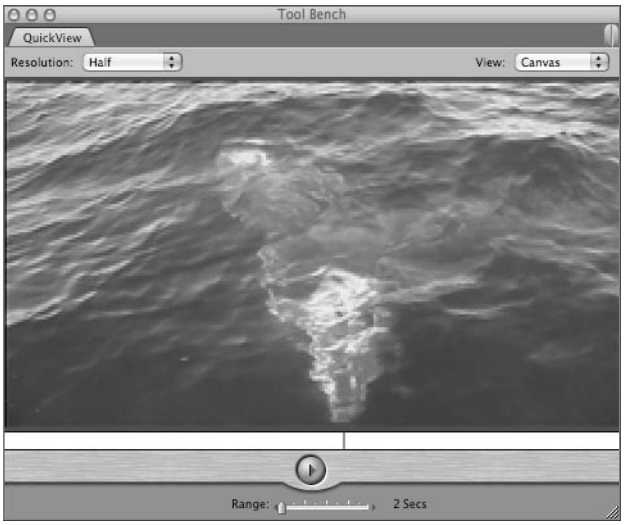
Preview Render Effects

Before you render an effect, try to preview it by using one of the FCP effect preview options.

To preview effects, *do one of the following:*

- Choose Tools > QuickView, or press Option-8, to open the QuickView tool in the Tool Bench. Users of After Effects will understand this RAM preview immediately. Set a range and resolution, and click the Play button. FCP will process the effect and cache it to RAM, then play it back in real time or something close.



- Move the playhead to the beginning of the effect in the Timeline and press Option-P or Option-\ (backslash). This will play every frame of the effect, but not in real time. However, once you have played the effect this way, it is loaded into RAM. Reposition the playhead to the beginning frame of the clip and press Option-P (or Option-\) to play from RAM in real time.
- Step through an effect using the left and right arrow keys, or drag the playhead across the clip.

NOTE ► The advantage of using the QuickView tool over pressing Option-P, which is also a RAM preview, is that the range in the QuickView window will loop, allowing you to adjust parameters and see their effect without having to reposition the playhead manually or render.

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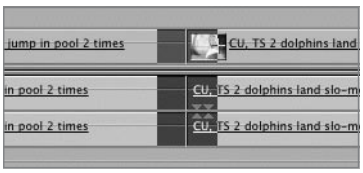
Perform Partial Renders

There may be times when you are creating an effect and are not ready to do a final render because you are still making adjustments to the effect. Oftentimes, the effect tweaking can be performed on one area of the clip. When this is the case, do what you do in Avid. You can isolate and render only that portion of the clip. Once you've isolated the portion you want to test, you can keep rendering that smaller portion until you tweak the effect to your liking. Then you can render the entire clip or group of clips.

You have multiple ways to isolate a smaller portion of unrendered material:

- Set In and Out marks in the clip and choose Sequence > Render Selection.
- Use the Razor Blade tool (B) to add an edit for that section (or Control-V with the desired track's Auto Select enabled if you're keybound). Select the add edit clip and choose Sequence > Render Selection.
- Use the Range Selection tool (GGG) to select a specific range of frames within a single clip or between two or more clips on the same track. Choose Sequence > Render Selection.



Preserve Render Files

Preserving files that have already been rendered will help you avoid having to re-create them. There are different ways to preserve render files:

- Pay attention to when you turn track visibility off and on. If you toggle off the visibility of a track, you will lose all render files on that track. In fact, when you turn off track visibility on a track that has rendered clips in it, FCP will show a prompt indicating that you will lose your render files.

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- An alternative to toggling the entire track's visibility is to toggle the visibility of a single clip on a track or a group of clips; this will preserve all other renders on that track. To turn off the visibility of a clip or group of clips, select the clips. Control-click one of the selected clips in the Timeline and choose Clip Enable, or press Control-B.

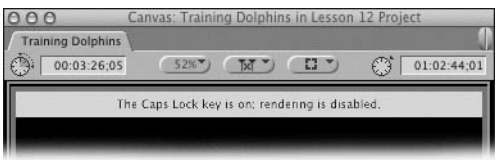
  NOTE ► When you disable a single clip, you also lose the render files for that clip. You will not be warned in this approach, but you will see a render bar appear above the clip's duration in the Timeline.

- Another way to preserve render files is to export them after they have been rendered. This will create a new media file that will not require rendering. To use the exported effect clip in your project, just import it as a new file.
- You can also step into a nest and render files within that nest. These render files will remain linked to the nest when you edit the nest into another sequence. If you were to render a nest in the parent sequence, the render files would be associated with the parent sequence and not the original nest.

Disable Playing Rendered Files

When you move the playhead over an image that has an effect attached to it, FCP displays that single frame of the total effect as though it were rendered. While this is helpful when creating an effect, the simple act of dragging or scrubbing your playhead over a Timeline full of these clips can slow down your editing.

Like Avid's Render on the fly, FCP performs this automatic frame rendering as a background activity, but it takes additional time and processing power. You can disable background rendering by using the Caps Lock key. With Caps Lock selected, automatic rendering is disabled. If you want FCP to turn the background rendering back on, turn Caps Lock off, which is the default mode.



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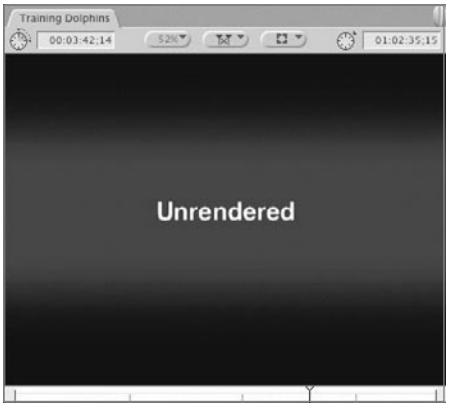
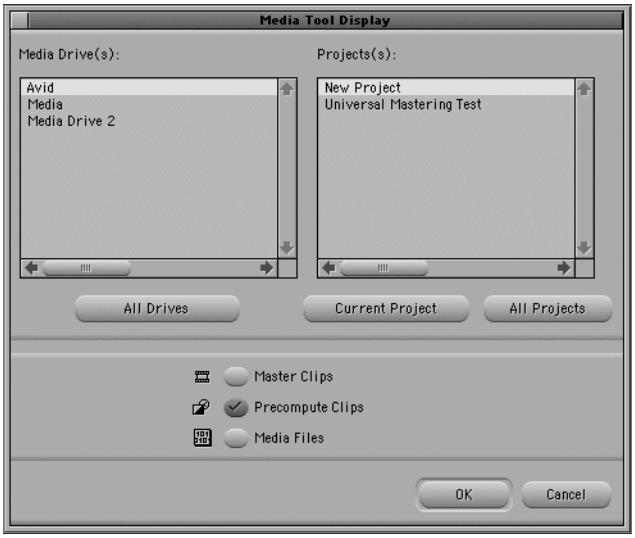
When rendering is disabled using Caps Lock, FCP will play all real-time clips in the sequence but will not play any clips that need rendering. Instead, an Unrendered proxy message appears in the Canvas during those clips that need rendering.



Managing Render Files

In Avid, you use the Media tool to remove unwanted precomputes. In Final Cut Pro, you use the Render Manager tool. FCP handles render management very much like Avid—it finds the render files you direct it to and deletes them. While FCP doesn't have a specific Reverse Selection or Select Media Relatives sift option, you can use Column view and Quick Look on the Finder level to search for and delete specific render files.



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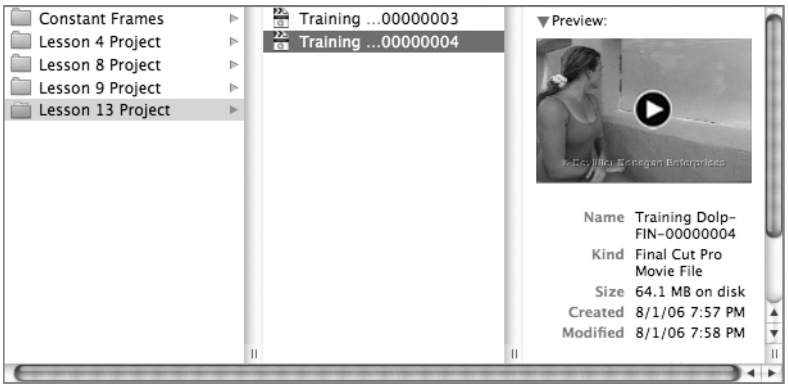
FCP render files are saved to the scratch disk, which can be set in the System Settings window (Shift-Q) or during the capture process. When you assign a scratch disk location, a Render folder is created to store render files. When you render an effect, another folder is created within the Render folder with the project name. The render file itself has the name of the sequence along with a unique FCP number to identify it.

The default location for render files is Macintosh HD > Users > *User Name* > Documents > Final Cut Pro Documents > Render Files > Project Name. While this is the default location for render files, you will probably want to change this path to a dedicated scratch disk during your initial setup. Render files are bona fide media files, and you may encounter playback issues if they are on your boot drive.



TIP When viewing render files in the Finder in Column view or Quick Look, you can play a file to determine if it's still relevant to your project.

To view render files in the Render Manager:

In the Render Manager tool, as in the desktop Finder, render files are organized and grouped together according to project and sequence. FCP will display all render files from both open and closed projects that have been saved at the current scratch disk location. Unlike the desktop display, where render files are listed separately, the Render Manager combines and displays all render files for a specific sequence into a group, one group for each sequence.

1 In FCP, choose Tools > Render Manager to display the Render Manager window.

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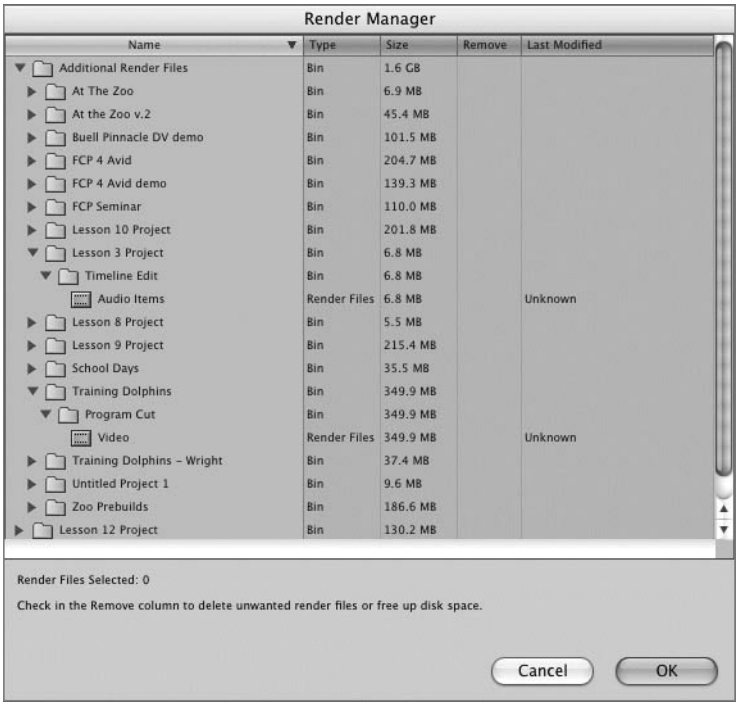
2 Find your project and display the contents of the project folder. Any sequence that has render files associated with it will appear as an individual folder. Display the contents of the sequence folder to see what render file groups have been created within that sequence.


Render Manager
Name
Type
Size
Remove
Last Modified
Additional Render Files Bin 1.6 GB
At The Zoo Bin 6.9 MB
At the Zoo v.2 Bin 45.4 MB
Buell Pinnacle DV demo Bin 101.5 MB
FCP 4 Avid Bin 204.7 MB
FCP 4 Avid demo Bin 139.3 MB
FCP Seminar Bin 110.0 MB
Lesson 10 Project Bin 201.8 MB
Lesson 3 Project Bin 6.8 MB
Timeline Edit Bin 6.8 MB
Audio Items Render Files 6.8 MB Unknown
Lesson 8 Project Bin 5.5 MB
Lesson 9 Project Bin 215.4 MB
School Days Bin 35.5 MB
Training Dolphins Bin 349.9 MB
Program Cut Bin 349.9 MB
Video Render Files 349.9 MB Unknown
Training Dolphins – Wright Bin 37.4 MB
Untitled Project 1 Bin 9.6 MB
Zoo Prebuilds Bin 186.6 MB
Lesson 12 Project Bin 130.2 MB
Render Files Selected: 0
Check in the Remove column to delete unwanted render files or free up disk space.
Cancel
OK

NOTE ► In this example, there are two primary folders: the Additional Render Files folder at the top of the list and a Lesson 12 Project folder at the bottom of the list. The top folder includes all render files from unopened projects that were saved to this location.

3 To sort the items in the Render Manager window, click one of the column heads.

To delete render files using the Render Manager:

All render files from one sequence are grouped together and appear as a separate clip icon in the Render Manager window. Deleting the render file group will delete all render files associated with that sequence. You can delete a single render file group, several render file groups, all render files of one or more sequences, or all render files of an entire project or several projects.

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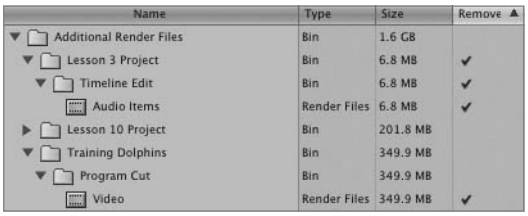
1 In the Render Manager window, *do one of the following:*

- To delete a render file group, click in the Remove column on the same line as the specific file.
- To delete all render files associated with a specific sequence, click in the Remove column next to the sequence name. The individual render file groups associated with that sequence are selected.



- To delete all of the render file groups associated with a project, click in the Remove column next to the project folder name.

The amount of hard drive space that will be freed after the selected render files are deleted is listed below the project information area.

NOTE ▶ If you delete a render file, it cannot be restored using the Undo command. You must re-render the affected clip.

2 To complete the deletion, click OK.

TIP If you want to delete a single render file, you can do so at the desktop level in the Finder. FCP will not be able to track it as it can in the Render Manager, but you will certainly encounter a reconnect dialog as a result of the deletion.

Working with the Media Manager

Like managing your render files, managing media files is an important part of the editing process. You will often begin this process after you have completed your project to free up space on your hard drive, or to recapture your media at a higher resolution.

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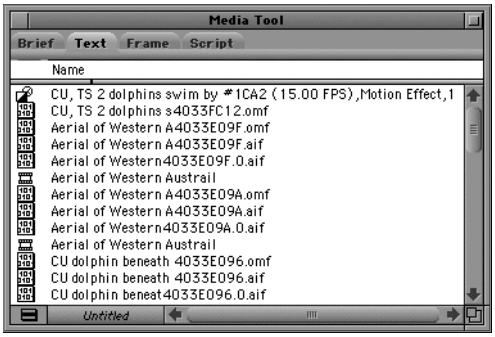


Avid's Media tool

While Avid's Media tool lets you sort and delete media for one or more projects, the Final Cut Pro Media Manager is a true multitasking machine. It lets you perform many media management functions—such as clip or sequence trimming, consolidating, copying, moving, recompressing sequences, archiving projects, and deleting—all in one place.

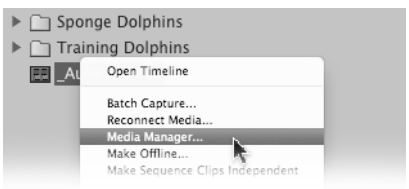
Media Manager Window

The FCP Media Manager window is highly interactive. With every option box you select, the summary at the top of the window is updated to indicate how the Media Manager will handle your media files. Moving over the colored media bars displays additional information about the media location and length. Choosing certain options makes other options available or unavailable.

1. Select the desired clips or sequences in the Browser that you want to manage.

2. To open the Media Manager window, *do one of the following:*

   - Choose File > Media Manager.
   - Control-click a selected clip or sequence and choose Media Manager from the shortcut menu.



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The Media Manager opens and displays the following sections:

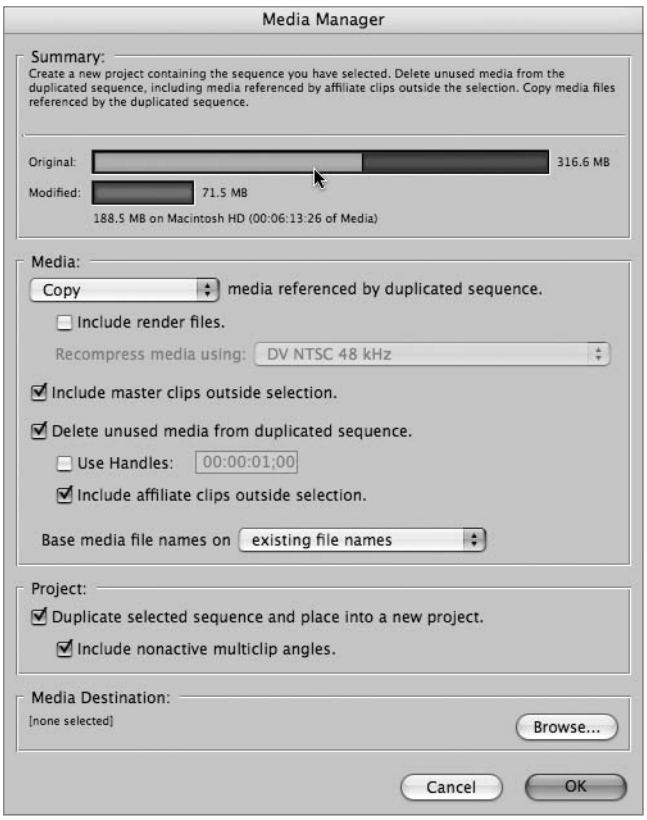
Summary—Update what will happen based on all of the selections made within the Media Manager.

Media bars—Indicate how much media is involved with the current settings (Original) and how much media will be involved after the modification has been made (Modified). Position cursor over a green (captured media) or blue (rendered media) bar to see media measured in timecode duration.

Media—Provide options to copy, move, recompress, use existing, or create offline media, and other details that change according to how the media is processed.

Project—Let you create a new project from the selected settings.

Media Destination—Select the media destination for any new source media files.


Media Manager
Summary:
Create a new project containing the sequence you have selected. Delete unused media from the duplicated sequence, including media referenced by affiliate clips outside the selection. Copy media files referenced by the duplicated sequence.
Original:
316.6 MB
Modified:
71.5 MB
188.5 MB on Macintosh HD (00:06:13:26 of Media)
Media:
Copy
media referenced by duplicated sequence.
Include render files.
Recompress media using:
DV NTSC 48 kHz
Include master clips outside selection.
Delete unused media from duplicated sequence.
Use Handles:
00:00:01;00
Include affiliate clips outside selection.
Base media file names on
existing file names
Project:
Duplicate selected sequence and place into a new project.
Include nonactive multiclip angles.
Media Destination:
[none selected]
Browse...
Cancel
OK

There are five media processing options—Copy, Move, Recompress, Use existing, and Create offline—which tell the Media Manager how to process your media files. Depending

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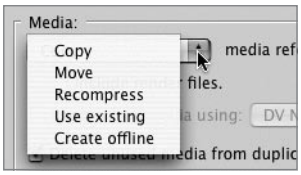
on which option is selected from the Media pop-up menu, other options in this area will become available.



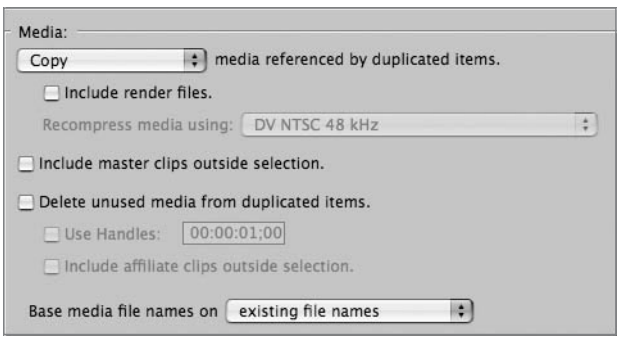
Copying and Moving a Project

Many experienced Avid editors use a popular third-party program called Media Mover to copy and group media files for one or more projects and archive them to specific destinations. Final Cut Pro handles this task and others via its internal Media Manager tool.

If you have to copy or move your project from one computer to another, you can use the Media Manager Copy and Move functions to search for and gather all of the media files associated with that project. No matter where they are located, or whether they are graphic files, audio files, or media files, the Media Manager will find them and either copy or move them to the specific destination.

To copy a project:

1. To copy your entire project, make the Browser window is active and click in the empty gray area, or press Shift-Command-A, to deselect all items.
2. Choose File > Media Manager.
3. Click the Media pop-up menu and choose Copy.
4. If you want to copy the render files as well, select the "Include render files" option.



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5 Deselect the "Delete unused media from duplicated items" option.

6 Keep the "Base media file names on" option on the default "existing file names."

7 Select the "Duplicate selected items and place into a new project" option.

8 In the Media Destination area, click the Browser button and navigate to the external drive where you want the copied media files to be placed. Create a folder for the new files.

9 When the Save dialog appears, enter a name for the new project and a destination. Click Save.

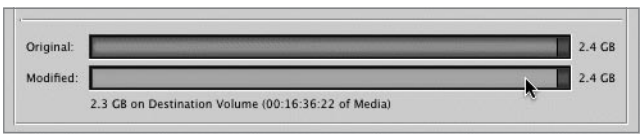
NOTE ▶ Don't forget about the FCP master/affiliate clip relationship. Each affiliate clip in the sequence originated from a master clip. If you have multiple affiliate clips in your sequence that came from the same master clip, a separate master clip will be copied for each and every one of those affiliate clips. If you have multiple affiliates from the same master clip, that means you will capture the whole master clip multiple times.

To move a project:

Moving a project can occur on the same computer or on a computer across the world. As with the copy function, the Media Manager will find all the media files associated with your project and collect them into one location. But unlike copying a project and media files, when you use the Move option, you are moving a copy and deleting the original. You will no longer have the original as a backup or reference, so be careful when using the Move or Use Existing operations in the Media Manager.

1 Select everything in your project and then open the Media Manager window.

2 From the Media pop-up menu, choose Move.



Notice that the media bars are exactly the same length because you aren't changing the media, just moving everything from one place to another.

3 Click the appropriate options for render files and media file names, then choose a media destination and click OK.

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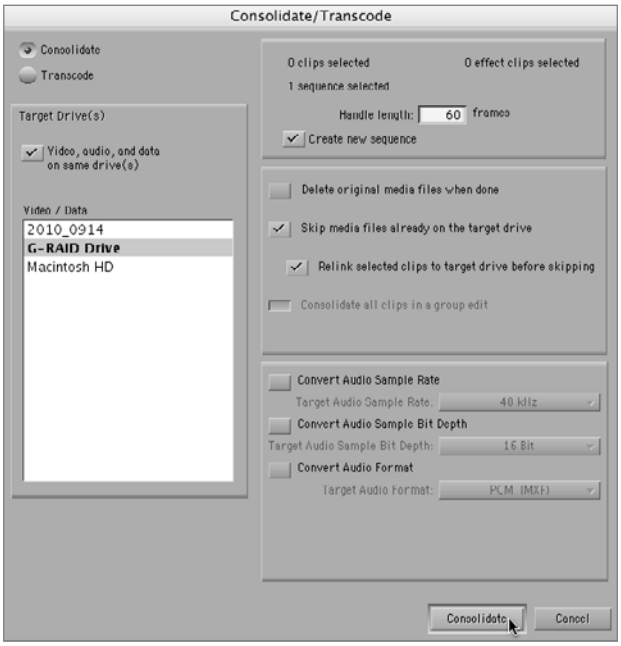
Consolidating Media

Once you've reviewed your material and are sure which clips you want to use in your project and which you don't, you may decide it would be nice to consolidate your media files and delete extra material you aren't using to free up more space on your media drive. In Avid, this is an integral part of a Consolidate operation, which includes trimming the sequence to clip In and Out points plus specified handles, copying all media to the target drive unless it already exists, and optionally deleting original media.



Avid Consolidate/Transcode dialog

Final Cut Pro handles these procedures in much the same manner. For clarity, this exercise focuses on sequence trimming. Using the Media Manager, you can trim sequence media so that the media files are changed to reflect just what you want and need. You can also apply these steps to trimming clips down to the marked portion only.

To consolidate media in a sequence:

The logical media processing option to trimming clips is to choose the Use Existing option from the Media pop-up. This option will delete existing clips or remove any media within these clips that are not currently associated with the selected sequence. Only the trimmed

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media files that make up the sequence will remain. While this is the logical choice, you may choose to take the safer approach and copy the media that is used in the selected sequences, then delete the original media in a separate step. This allows for any unforeseeable power failures that could disrupt or corrupt the process.

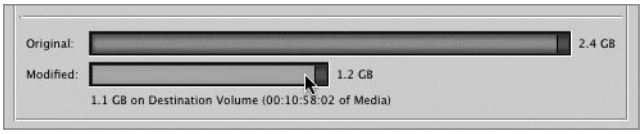
1 Select the sequence or sequences in the Browser for which you want to trim media.

NOTE ► When you use the Use Existing option, you must have enough space for the original amount of your media in order to save the project before making any trims or deletions in FCP.

2 Choose File > Media Manager.

3 From the Media pop-up menu, choose Copy to copy the new media files to a new location or choose Use Existing to trim the current media files.

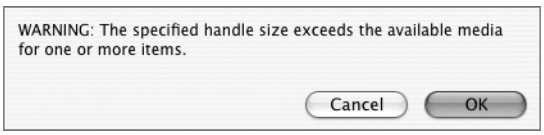
4 Select the "Delete unused media from duplicated items" option.



Now the Modified media bar is half the size of the Original. Read the new information in the Summary area of the Media Manager to see how the process is being tracked.

5 If you want to add handles to these media files, beyond the In and Out points used in the sequence, click the Use Handles checkbox and enter the desired amount.

NOTE ► If you enter handles that exceed the available media limit, a warning will appear.



6 If you are using the Copy function, deselect the "Include affiliate clips outside selection" option.

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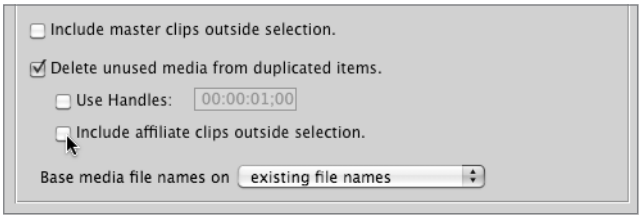

Because of the FCP master/affiliate relationships, this option will find any master clips affiliated with the sequence clips and, if In and Out points exist, will include that material as part of the copy process. This can seriously undermine the goal of reducing media in your project.

NOTE ► The "Include master clips outside selection" option determines how much media is retained in the master clips of the new project. When this option is selected, the new master clip's media file will contain media between marked In and Out points in the original master clip, as well as media from any affiliate clips in selected sequences. When this option is deselected, the master clips in the new project will only include media used by the items you selected before opening the Media Manager window.

For more information, see "Limiting How Much Media Is Copied or Deleted" in the Final Cut Pro User Manual.

TIP Since the trigger for including master clip material is In and Out marks, you can circumvent this by selecting all master clips in the project, Control-clicking in the Browser In column, and choosing Clear to clear all the In points of selected clips. Then repeat this step in the Out column.

7 From the "Base media file names on" pop-up, choose "existing file names."

TIP If you rename clips in the Browser and choose "clip names" from this pop-up, the media files on your hard drive will be renamed incrementally with numbers after the clip names in the Browser.

8 Select the "Duplicate selected items and place into a new project" option.

9 Set a destination, then click OK. Name the project file and click Save.

NOTE ► You may get a warning indicating that one or more clips are being used elsewhere in the project. Double-check your clip choices and marks before proceeding. If your new clip marks are all correct, click Continue, not Add.

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When this process is complete, check the new project to determine that all the necessary files are intact. If they are, and you don't need the original media files any longer, you can select the items in the old project and use the Make Offline command to unlink the clips and delete the media files from your disk.

Recompressing and Creating Offline Clips

As in Avid, you can capture clips at a lower resolution to do an offline edit. This lets you store much more media on your media drives as you make your initial editing choices. When you have identified the clips you want in your final sequence, you can recapture those clips at a higher resolution. In FCP, as in Avid, you can use the same clip information to recapture. This can be done by unlinking the clips from their media files and batch capturing new media files at the higher resolution.

If, however, you captured at a high resolution, FCP lets you create a low-resolution version of your current project by recompressing existing higher-resolution media files. This can be helpful if you want to work with the low-res media on your laptop.

To recompress your media files:

The Recompress option in the Media Manager will change the resolution of an existing clip or clips using one of the Easy Setup presets you've seen before.

NOTE ▶ While recompressing from a high resolution to a low resolution is a smart way to manage your project, recompressing from a low resolution to a higher resolution is not recommended because your media quality will not be any better than the original source.

1 In the Browser, select the bin of clips you want to recompress and choose File > Media Manager.

2 Click the Media pop-up and choose Recompress from the menu. Then click the Recompress Media Using pop-up and select an appropriate compression format based on your project's needs.

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When changing from DV NTSC to OfflineRT NTSC, as in this image, the Modified media bar becomes much shorter, indicating that the media requires a lot less media drive space than the original media files.

3 If you want to recompress the full length of your media files, deselect the "Delete unused media from duplicated items" option. If you don't want to recompress media that wasn't used, select the "Delete unused media from duplicated items" option. You would probably want to add handles with this method.

4 Select "Duplicate selected items and place into a new project" option, choose a destination, and click OK. Enter a name for the new project and click Save. The new project will open in the Browser once the operation is complete.

5 In the new project, create a new sequence and simply begin to edit. If "Auto conform sequence" is enabled in User Preferences > Editing, the sequence will conform to your newly transcoded media.

You are now ready to edit the recompressed clips into the new sequence.

To create an offline sequence:

The Create offline option will create a new project with offline copies of selected clips or sequences, allowing you to recapture them at a different resolution.

1 In the Browser, select the media files you want to make offline and choose File > Media Manager.

2 Click the Media pop-up and choose "Create offline" from the menu.

3 Click OK. Name the project and click Save.

Create Offline Clips
Lesson 13 Project
Effects
Name
Duration
In
Two Dolphins
CU dolphin by side of pool 00:00:07:17 Not Set
CU trainer by pool claps 00:00:08:23 Not Set
CU, TS 2 dolphins lift tails in pool 00:00:08:15 Not Set
MCU trainer by pool gives signals 00:00:08:14 Not Set
MS 2 dolphins jump in pool 2 times 00:00:32:26 Not Set
MS front trainer by pool signals to dolphin 00:00:10:06 Not Set
MS front trainer by pool w/ dolphin 00:00:07:13 Not Set
MS trainer by pool signals to 2 dolphins 00:00:09:22 Not Set
MS, LA, UW trainer dolphins thru water 00:00:09:03 Not Set
MS, TS 2 dolphins lift tails in pool 00:00:07:27 Not Set
MS, UW to surface dolphin/trainer by pool 00:00:08:02 Not Set
MWS trainer by pool pets dolphins TU sea 00:00:16:01 Not Set

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In the Browser, a new project tab appears with the offline clips. You can now use the Batch Capture function to recapture these clips at a higher resolution.

TIP The magic of Undo will actually change these clips from their offline status back to being linked to their original media.

Decomposing a Sequence

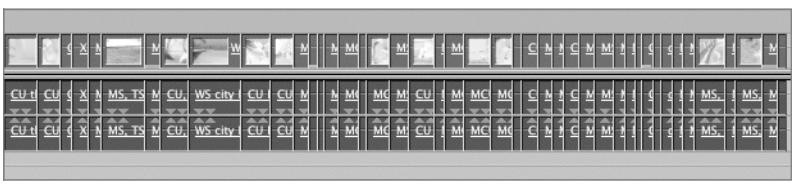
Avid users are familiar with the process of decomposing a sequence so you have more control over how the clips are organized for recapture. In Final Cut Pro, decomposing can be handled in two ways: by dragging clips from the sequence into a Browser bin, or by using one of the Media options in the Media Manager tool discussed in the previous sections.

If your goal is to decompose a sequence to treat the sequence clips in isolation for the purposes of color correction, making them offline and recapturing, then dragging clips from the sequence to a bin will be an easy and direct approach.

However, if your goal is to consolidate your project, trim the fat, copy, and relink to a target drive, then you will want to use the Media Manager for that process. Using the Media Manager to decompose your sequence lets you create a new project, sequence, and bin of trimmed media files. Once the operation is finished, you can work with the decomposed sequence and new master clips in the new project, or tear off the Project tab and drag the sequence icon and media bin back to your original project. The steps for this process were outlined in the "Consolidating Media" section earlier in this lesson.

To decompose a sequence using drag and drop:

1. Open the sequence in the Timeline, or make sure it is the active sequence.
2. In the Browser, create a bin and give it an appropriate name.
3. In the Timeline, press Command-A to select all the clips in that sequence.



4. Drag the selected clips from the Timeline into the new bin you created in the Browser.

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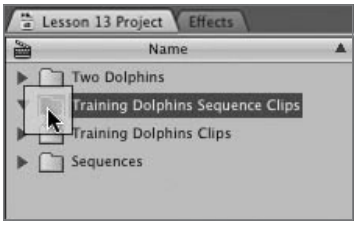

Dragging clips to bin

5 To sort the clips, open the clips bin and click the appropriate column heading. Shift-click a column to add a secondary sort criteria. You can also drag a column left or right to rearrange the columns.

6 To recapture these clips at a different resolution, select them all in the bin. Control-click one of the clips and choose Make Offline from the shortcut menu. You can use the shortcut Shift-D when clips are selected to invoke the Make Offline dialog.

From the Make Offline dialog, you can choose how you want to handle your existing media files, being careful not to remove or delete any unnecessary files. The selected clips in your Browser will now be unlinked from their original media files, and you can batch capture your media at a different resolution.

What You've Learned

- You can use the Find command to find a clip or clips in a sequence or in the Browser. When using it in the Browser, you can add criteria to your search that match the Browser column headings, and you can view the results in a Find Results window, similar to how you would view the contents of a Custom Sifted bin in Avid.
- The Find Results window displays the results of a search. You can refine your search by changing criteria that will cull or add to the results in the Find Results window.
- When you change the reel name or timecode for a clip, it changes that information on the QuickTime media file on your media drive.
- Changing the name and reel name of a master clip changes it in all other affiliate uses of that clip.
- You can use the two Modify > Rename commands to make sure clip names and media filenames match.
- FCP can find and identify duplicate frames used in a sequence as long as all clips have reel names.

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- Many changes can be made to a group of clips in the Browser by selecting them in List View and Control-clicking in the column where you want to make a change.
- To make a clip or group of clips offline, Control-click the clip and choose Make Offline from the shortcut menu.
- Some render management tips and techniques include previewing render effects as much as possible before rendering, performing partial renders as a test, preserving render files by using Clip Enable on a single clip rather than toggling visibility for an entire track, rendering inside a nested sequence, and disabling the playing of render files in the Timeline.
- In the Render Manager, you can delete render files located in the current scratch disk, whether or not that project is open.
- The Media Manager can perform several operations that process media files in different ways, such as copy, move, recompress, create offline, and delete unused media files.
- When trimming media files and deleting unused media from duplicated sequences, FCP looks at master clips, and if they have In and Out points, that material will be included in the process.
- You can easily decompose a sequence by dragging the clips from the sequence into a bin in the Browser.

Keyboard Shortcuts

Command-F	Open the Find dialog
Shift-D	Open the Make Offline dialog
Command-9	Open the Item Properties dialog
Command-0	Open the Sequence Settings dialog
Command-A	Select all items in current window
Shift-Q	Open the System Settings window
Option-8	Open the QuickView tool
Option-P (or Option-\)	Play every frame of an unrendered effect, but not in real time
GGG	Choose the Range Selection tool, which you can use to select a specific range of frames from one or more clips
Control-B	Enable or disable visibility for selected clips

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14

Goals

Detect audio peaks

Outputting audio

View video levels with FCP scopes

Check video peaks

Correct video levels

Apply color corrector filters

Explore output mastering options

Add timecode window burn

Back up files

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Lesson **14**

Finishing and Outputting

When you've finished making your editorial decisions, you will want to prepare your sequence for export or output to tape. In both Avid and Final Cut Pro, this includes making sure all the video and audio levels are correct, backing up your files, saving your settings, and customizing your output options.

As with Avid workflows and challenging post budgets, you may be responsible for both video and audio finish "in house." Even if your output is intermediate—perhaps for client review, fundraising efforts, or other nonbroadcast use—you want your video and audio to be as clean as possible. Attention to sequence preparation for an online workflow—whether via FCP or Avid, whether audio is sweetened offsite or not—will save you time and money in an online session.

FCP provides two unique tools to help you with this process: one to detect audio peaks throughout your sequence and another to detect video levels that are too high. While color correcting can occur during editing and often during online finish, the two color-correcting filters in FCP are covered here, as well as other filters that will help you conform your sequence to broadcast standards. To aid in this process, you can use one of several video scopes in FCP.

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When you're ready to output your sequence to tape, to DV, DVCAM, or DVCPRO via FireWire, or to high-end formats such as Digital Betacam or HD, you will find that the FCP dialog list approach to selecting leader items—color bars and tone, slate, countdown, and so on—is simple, elegant, and efficient.

Detecting Audio Peaks

While both Avid and Final Cut Pro have audio meters that let you view audio levels, if you've ever checked for audio peaks using Avid's Audio tool and the Console window for a peaks listing, you'll find the FCP detection system dramatically easier to use.

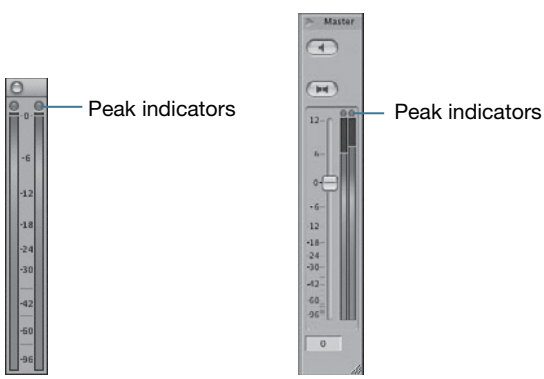
The Mark Audio Peaks function checks the audio tracks in the Timeline and places markers where the audio exceeds an acceptable level.

Digital Audio Peaks

All digital audio is capped at an incoming level of 0 decibels (dB). Digital audio that reaches this level, or goes beyond it, is clipped. This 0 dB level is called an *audio peak*. Audio that has been clipped at 0 dB often sounds distorted and may not be acceptable for the final edited version of your sequence. If you've ever encoded a DVD with audio just a little over peak, you know how critical this 0 dB level really is. Using the Mark Audio Peaks function makes control over distortion very easy.

As in Avid, the FCP Audio Meters window and Audio Mixer has peak indicators that light up and remain lit to indicate the digital audio in your sequence has either reached or gone beyond 0 dB.

> **NOTE ▶** Although the audio peaks are detected at the same digital 0 dB level in both meters, the Audio Mixer meters have another 12 dB above the zero level to indicate a measure of signal overload. The audio meters stop at 0 dB.



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To detect and correct audio peaks:

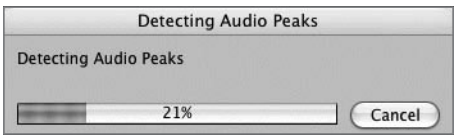
You can apply FCP audio peak detection to a clip, group of clips, or the entire sequence, and it will mark every location where the audio peaks. In cases where transient peaks occur, you can often soften them to acceptable levels and avoid calling attention to them. Unfortunately, if the distortion is really bad, you may have to recapture the clip or choose other material in its place.

1 To detect audio peaks for the entire sequence, open that sequence in the Timeline and deselect all clips by pressing Command-Shift-A.

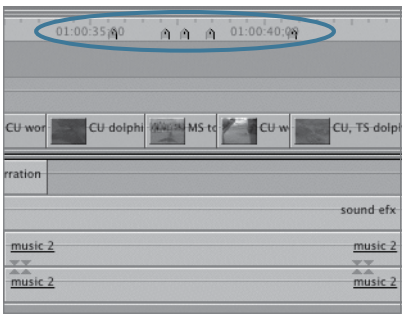
TIP To check for audio peaks within a clip or specific Timeline area, identify the range with In and Out points before proceeding to the next step.

2 Choose Mark > Audio Peaks > Mark.

A progress bar appears as FCP checks selected clips or the entire sequence for audio peaks.



If the audio in the sequence peaks at 0 dB or above, FCP places an orange marker at that point in the Timeline ruler area.



3 If FCP finds audio peaks, *do one of the following:*

- Turn on audio waveforms to get an accurate look at the peaks.
- Lower the audio levels of the appropriate clips in the marked areas with audio rubberbanding. Sometimes this can take care of the problem.

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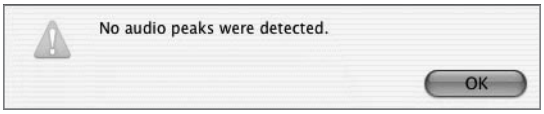
- Edit around the audio peaks in the clip.
- Recapture those sections of audio.

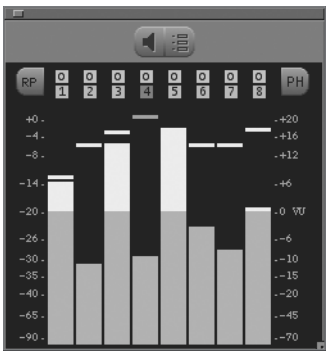
4 Test again for audio peaks. If the corrections were successful, FCP removes the peak markers, and the following note appears:



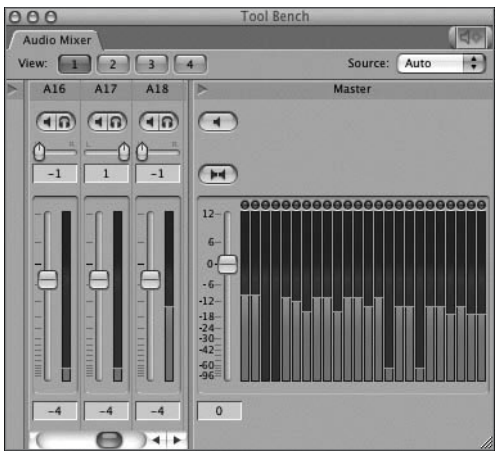
5 To clear any remaining audio peak marks, choose Mark > Audio Peaks > Clear.

Modifying Audio Output Levels

When you want to raise or lower the overall output level of the sequence, you have a few options. While Avid's Audio tool is used to monitor audio input and output levels, the FCP Audio Mixer is used for both mixing and outputting audio. In Avid, you can output up to 16 channels of audio; FCP supports up to 24 output channels. You can also use the FCP Gain Adjust function, which modifies overall levels by specific dB increments, or the Apply Normalization Gain option, which applies a Gain filter to a clip to reset its peak level.



Avid Audio tool



FCP Audio Mixer with 24-track output

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To modify levels using the Audio Mixer:

Controlling the audio output using the Audio Mixer Master fader does not affect the volume level overlays of the individual clips. It changes the overall volume level of all audible tracks in the sequence as it is output to tape or written to a movie file when you export.

1 Set each audio track in your sequence to an appropriate mix level using either the audio overlays (Option-W) or the Audio Mixer track faders.

NOTE ▶ You can also use the Automatic Keyframing function to set keyframes as you use the track faders, as detailed in Lesson 8.

2 Play the sequence and raise or lower the Master fader to set the average output level at around –12 dB, which is the target level for digital audio.

To modify levels using Gain Adjust:

As in Avid, the Gain Adjust dialog (covered in Lesson 8) raises or lowers the dB for selected clips by specific amounts.

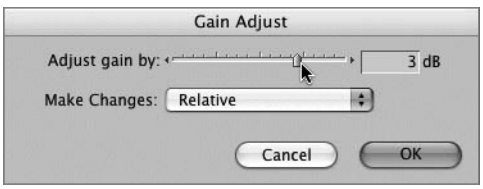
1 *Do one of the following:*

- To change the audio levels throughout the entire sequence, press Command-Shift-A to deselect any selected clips.
- To change the levels for a clip or group of clips, select those clips in the Timeline.

2 Choose Modify > Levels, or press Command-Option-L.

3 In the Gain Adjust dialog, make sure Relative is chosen in the Make Changes pop-up menu so you can preserve any keyframes or current audio mix levels. Enter a dB amount and click OK.

The audio levels in the sequence or clips will be raised or lowered by that exact amount.



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TIP As in Avid, an Absolute entry raises or lowers all selected tracks from their original 0 dB level by a single value. This is an excellent strategy for boosting low-level recordings, but use it carefully if you've already balanced your tracks.

Changing Audio Output Channels

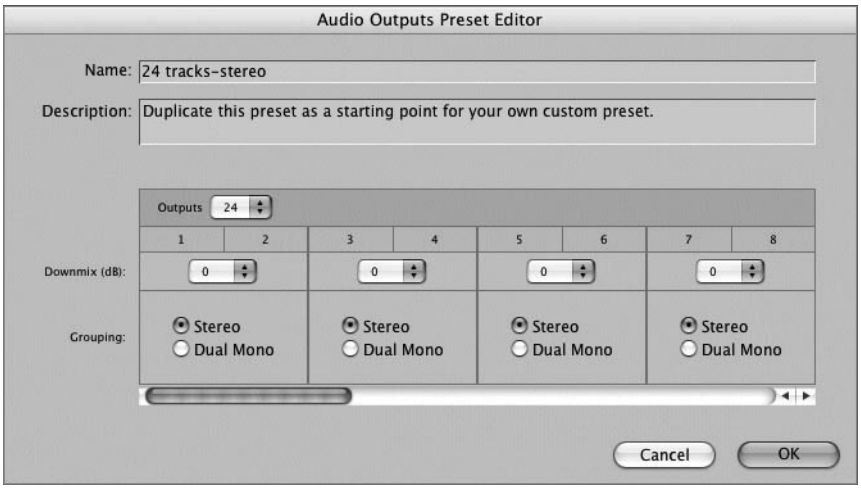
Final Cut Pro can output up to 24 channels of audio that, as in Avid, you can route and downmix to just as many or fewer output channels, provided you have the hardware to support that many tracks. Like creating an Easy Setup preset for your specific video attributes, you can also create presets for your audio. Once you create a preset, you can load it into any existing sequence.

To create an audio output preset:

1. Choose Final Cut Pro > User Preferences, or press Option-Q, to open the User Preferences window.

2. Click the Audio Outputs tab and then click the Duplicate button in the bottom of the window to duplicate the default settings. You will make changes to the duplicate.

   An Audio Outputs Preset Editor dialog opens in which you can choose the number of tracks you want to output and the type of each track (stereo or mono).


Audio Outputs Preset Editor
Name: 24 tracks-stereo
Description: Duplicate this preset as a starting point for your own custom preset.
Outputs 24
1 2 3 4 5 6 7 8
Downmix (dB): 0 0 0 0
Grouping: Stereo Dual Mono Stereo Dual Mono Stereo Dual Mono Stereo Dual Mono
Cancel
OK

3. Give the preset a name, such as *24 tracks-stereo*, and click OK.

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When this preset is selected in the User Preferences window, all newly created sequences will be set up for 24-channel stereo output.

To load an audio output preset:

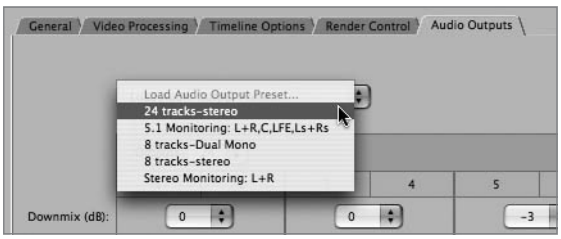
If you have already started editing, or if you are at the output stage with your project, it's not too late to load and use one of the audio output presets you created in the User Preferences Audio Outputs tab. However, as always, if working with a current sequence, you must make changes in the Sequence Settings dialog. If one setting doesn't fit all sequences in the project, you can also simply change the audio outputs for individual sequences when you are at the output stage.

1 In the Timeline, click the appropriate sequence tab to make it active.

2 Choose Sequence > Settings, or press Command-0 (zero), and click the Audio Outputs tab.

The same information appears in this tab as it did in the User Preferences Audio Outputs tab, but changing settings here applies only to the current sequence.

3 Click the Load Audio Output Preset pop-up and choose the appropriate option for your sequence.



If FCP doesn't detect the hardware to support your selection, a warning dialog appears in which you can choose to downmix the outputs. In the Audio Mixer, all the output channels you specified in the preset appear in the Master fader pane.

Working with Video Scopes

Correcting video for output is one of the final steps in a project. This process is often aided by two video scopes: a waveform and a Vectorscope. FCP offers two additional scopes to view the video levels in your clips. Together, the group of four video scopes

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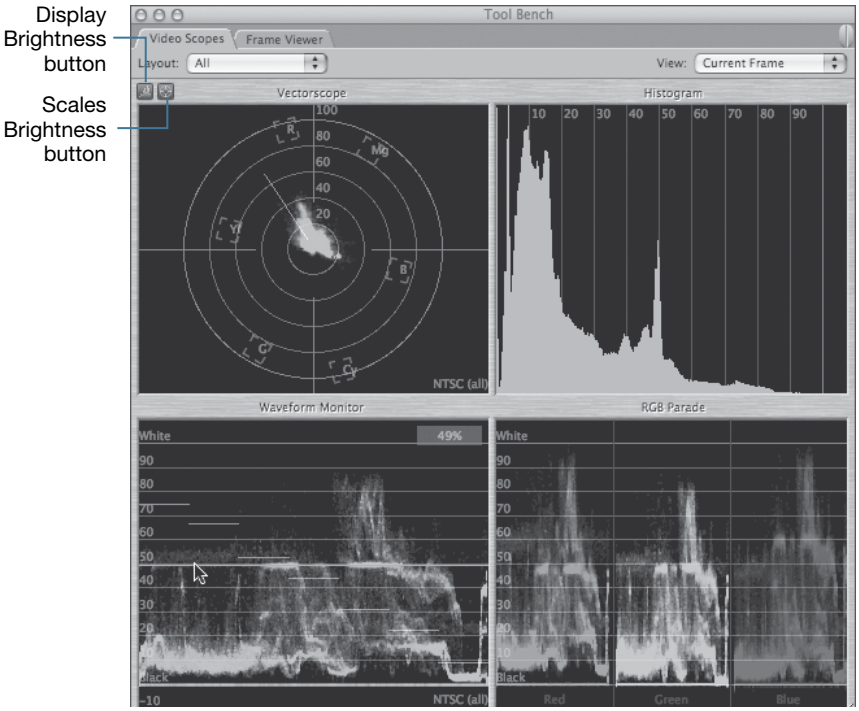
appears in the FCP Tool Bench window. They prove highly useful, especially when hardware scopes aren't available.



FCP Video Scopes tab in Tool Bench

The four scopes in the FCP Video Scopes tab are the Waveform Monitor, the Vectorscope, the RGB Parade, and the Histogram. As an Avid editor, you're already familiar with using the Waveform Monitor to view luminance and black levels, and using the Vectorscope to view hue and saturation. The RGB Parade shows the levels of individual RGB channels. The Histogram, like any other camera or graphic histogram—such as the Photoshop Levels dialog—displays the relative strength of all luminance values across a video frame in digital values from 0 to 255, from black on the left to white on the right.

To use video scopes:

1 To open the Video Scopes tab, *do one of the following:*

- Choose Tools > Video Scopes or press Option-9.
- Choose Window > Arrange > Color Correction.

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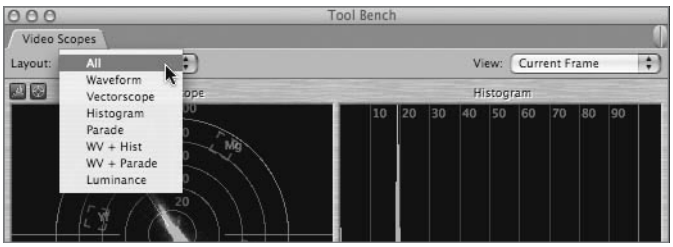
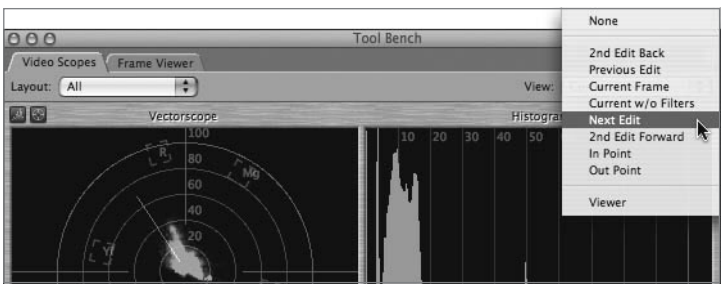
A Tool Bench window opens with the Video Scopes tab, not unlike an Avid Toolset workspace. The preset Color Correction layout includes all interface windows. When you open Video Scopes by itself, the Tool Bench window is positioned wherever it was last placed.

2 To see a different combination of scopes, or a single scope, on the Video Scopes tab, from the Layout pop-up menu, choose one of the options.



3 To change the clip or edit you are viewing in the scope—such as the previous or next edit, In or Out point, or a clip in the Viewer—from the View pop-up menu, make the appropriate choice. You can also choose Current Frame and, in the Timeline, press the Up or Down Arrow key to move from edit to edit.



TIP To compare values from adjacent edits quickly and "visit" surrounding edit points temporarily, press Control-Up Arrow or Control-Down Arrow to visit the previous or next edit. Release these keys to spring back to the original playhead location. To visit In or Out marks surrounding the playhead, press Control-Left Arrow or Control-Right Arrow.

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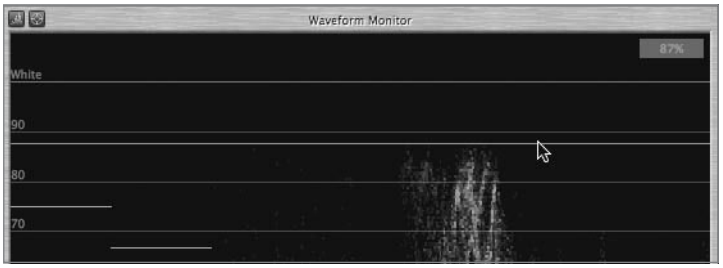
4 To take a closer look at the Waveform Monitor, from the Layout pop-up menu, choose Waveform. To see the video level at a certain area, move your pointer to that location in the scope and the level will appear in the upper-right corner.



5 To increase the brightness of the traces or graticule lines on the scope, click the Display or Scales Brightness button and adjust the slider.

6 From the Layout pop-up menu, choose Vectorscope and move your pointer inside the scope area.

Again, the level is displayed in the upper-right corner based on the location of your pointer.

Checking Video Levels

Looking at scopes in either Avid or Final Cut Pro is one way for you to determine when an image is in an acceptable range for broadcast specifications. Like Avid, FCP has a tool that flags you if a clip falls out of this range. The FCP Range Check function identifies the portions of a video clip that exceed broadcast standards of transmission.

Range Check Indicators

If the luma or chroma levels exceed the acceptable broadcast limit of 100 units, diagonal lines appear across the image in problem areas with a yellow yield sign. The red lines indicate areas that are over 100 percent, and the green lines indicate areas that are very close to 100 percent.

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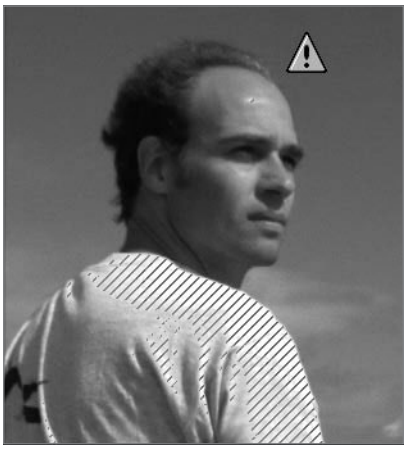
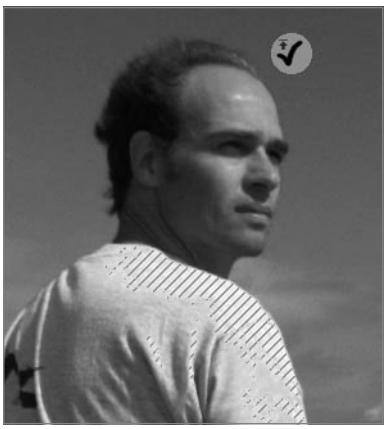


TIP Be aware of your measurement choice! If measuring both luma and chroma at the same time, the yellow exclamation point could indicate that either luma or chroma levels—or both—are illegal. Isolate one or the other to determine the problem.

Images that fall between 90 and 100 percent appear with a check mark and an upward arrow, indicating that parts of the image are reaching the upper limit. Green diagonal lines appear over those areas that are close to 100. When an image is well within acceptable range, a check mark within a green circle appears, and there are no diagonal lines over the image.



TIP To ensure your levels are broadcast safe, adjust your images until you see the "all's clear" check mark without an arrow.

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To use range checking:

The range checking function checks either the luma or chroma of your media, or both together. When it's active, you can position the playhead on any frame of any clip and you immediately will see whether that clip is broadcast safe. You can use range checking in both the Viewer and the Canvas.

1 Select a clip or clips in the Timeline, or deselect all clips to perform a range check on the entire sequence.

2 Choose View > Range Check, and *do one of the following:*

- Choose Excess Luma (Control-Z) to check just the luma or white levels.
- Choose Excess Chroma to check just the chroma levels.
- Choose Both to check both luma and chroma levels.

3 Move the playhead through the sequence to see which clips need adjusting. You can also press the Down Arrow key to move forward from clip to clip in the sequence.

Correcting Video Levels

Using the Final Cut Pro range checking function will tell you where you might have video level problems—but it doesn't fix those problems. To correct your video levels, you must apply a filter to those clips that are out of acceptable broadcast range. Avid can also make these corrections by adding an effect, but it cannot identify which clips need correcting.

Adding a Corrective Filter

To correct or improve the video in your sequence, you can add one of several FCP filters designed to change specific aspects of the image. You will find more than one filter that can get the same job done. For example, a Broadcast Safe filter can be applied that rounds

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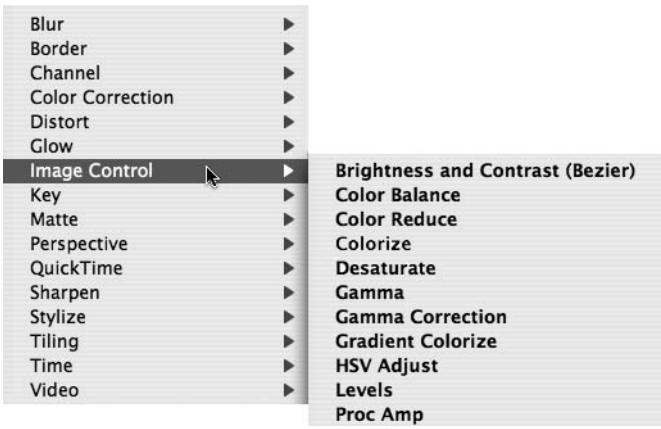
off any portion of the luma or chroma signal that is above broadcast standards. But you can also apply the Brightness and Contrast filter to lower brightness on the offending clips. If you are familiar with setting levels via a timebase corrector, you can apply a Proc Amp filter and feel at home with those options. You can use two color correction filters to improve the color of an image as well as adjust brightness and even drop out or change specific colors from an image.

You apply these filters to clips like any other filters, and you can combine them. Most of these filters are located in the Color Correction and Image Control submenus under Effects > Video Filters. (Applying filters was discussed in Lesson 9.)



Effects > Video Filters > Image Control options

To change the video level:

1 Choose View > Range Check to turn on the visual range checking display.

NOTE ▶ Overlays do not need to be active for the range checking display to be visible.

2 Park the playhead in the Timeline over the clip that needs correcting.

3 Double-click the clip to open it in the Viewer, and then click the Viewer's Filters tab.

4 Choose Effects > Video Filters > Image Control > Brightness and Contrast.

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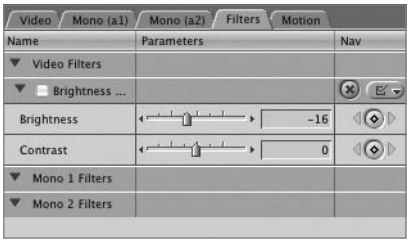
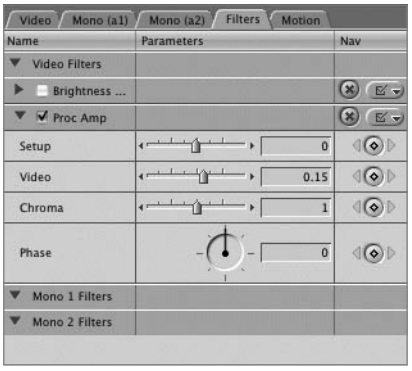


5 Lower the brightness level to reduce the amount of luma in the image until you see just a check mark in a green circle in the Canvas image.

6 Disable that filter so you can see how some others tackle the job. Do the following:

- Choose Effects > Video Filters > Image Control > Proc Amp and adjust the Video parameter to reduce the excess luma. Then disable that filter.



- Choose Effects > Video Filters > Color Correction > Broadcast Safe and adjust the parameters to clamp the excess luma or chroma. Then disable that filter.

TIP You may find that you achieve the best video-correction results by applying a combination of filters.

Correcting Image Color

While some versions of Avid's products offer similar capabilities to correct color, FCP provides extensive color correction options through two color correction filters: the Color Corrector and Color Corrector 3-way. Each of these filters provides a more visual approach to adjusting parameters. By clicking a Visual button in the Filters tab, or by

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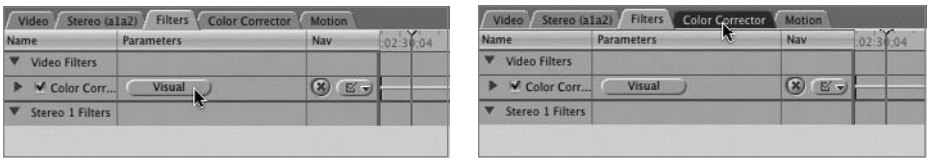
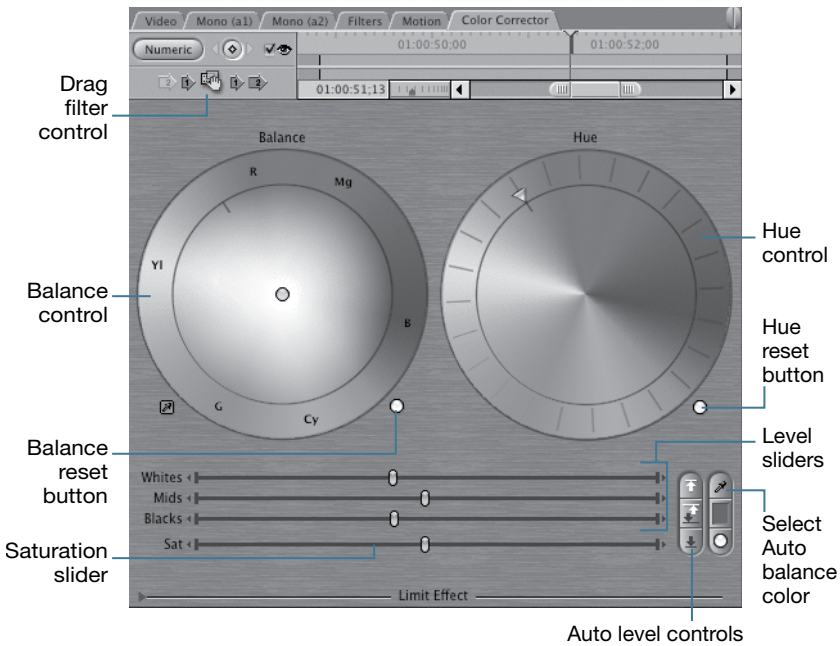
clicking the specific Color Corrector tab, you can work more intuitively with color wheels rather than typing in numeric fields.



Click the Visual button or Color Corrector tab to view Color Corrector parameters.

Color Correction Filters

You can access and edit the two color correction filters—Color Corrector and Color Corrector 3-way—in similar ways, but they have different applications. The Color Corrector filter has one color balance control that affects the whites of a clip and another color control that affects hue. It has sliders to control the whites, mids, blacks, and saturation in the image; and some buttons that you can use to automatically set white or black levels or to match colors. This is a good filter for changing overall color balance in an image.



Color Corrector filter

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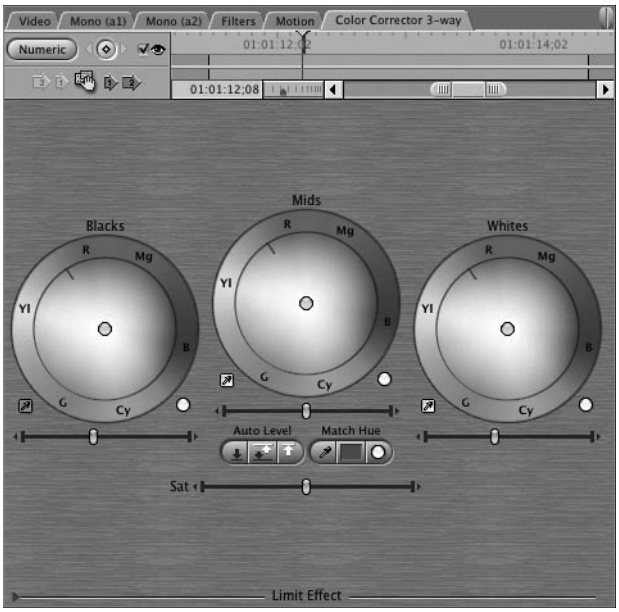
In the Color Corrector 3-way filter, you have three color balance controls, one each for Blacks, Mids, and Whites. This combination provides more control over the color in your image than the Color Corrector filter.



Color Corrector 3-way filter

NOTE ▶ Color correcting is a complex art that can't be covered in a few pages. The intent of this section is to show you where you can find the tools to adjust your images and generally what those tools do.

Under the Numeric button at the top of the visual interface in both color correction filters, you will see four arrow icons and a hand icon.

You can drag the center hand icon to any clip in the Timeline to copy this filter to a clip. You can click one of the arrows to apply this filter to the first clip after the current clip or the second clip after the current clip. This is useful when correcting dialogue scenes that cut back and forth between the same two people or shot setups.

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To apply the Color Corrector filter:

1 From the Timeline, double-click a clip that needs color correction to open it in the Viewer, and then click the Filters tab.

2 Move the playhead over the clip so it appears in the Canvas window.

3 With the clip selected in the Timeline, or with the Viewer active, choose Effects > Video Filters > Color Correction > Color Corrector.

4 On the Filters tab or on the Color Corrector tab, click the Visual button, and *do one of the following:*

- Click the Auto-Balance eyedropper beneath the Balance control and click in a white area in the image to reset the overall white balance of the image to that white.

- Drag within the Balance control to adjust the overall color balance of the image.

TIP If dragging in the controls seems too slow, simply hold down the Command key to gear up your dragging action. In other uses of this function, this action gears down speed.

- Drag within the Hue control to adjust the hue of the entire image.
- Adjust the Whites, Mids, and Blacks sliders as necessary.
- Adjust the Saturation slider as necessary.

5 To apply a secondary color correction to your image—such as to change color of only a portion of the image—reveal the additional parameters below the Limit Effect line by clicking the disclosure triangle to the left of the line.

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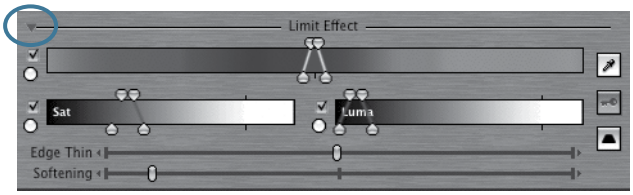

The Limit Effect controls let you select a color or color range from an image, while the controls above this area let you adjust the color you selected. This lets you either drop the saturation of one color from an image or change it from one hue to another.

Adjusting the Color Range control increases or decreases the range of the selected hue you're affecting. Adjusting the Hue and Balance controls above this area adjusts the replacement color.

Outputting to Tape

Final Cut Pro has three options for outputting a clip or sequence to tape: by playing back from the Timeline and manually recording, printing to tape, and editing to tape. In many cases, the simplest way is playing back from the Timeline, which works just like Avid's manual recording function. This method requires that you render your material yourself, whereas the other two options include automatic rendering as part of the output process.

The two other options, Print to Video and Edit to Tape, include mastering options—one of the simplest functions in FCP, but one that accounts for a significant difference between FCP and Avid. The mastering options—which include color bars, slate, black, and so on—appear as a list of items you select to be included in your finished tape. When you output these items, FCP automatically adds them in the appropriate places before and after your sequence without you having to edit them into the Timeline, as you would in Avid. But before we discuss the details of the mastering options, let's take a look at the mechanics of outputting a sequence to tape.

TIP Before outputting your clip or sequence, from the RT pop-up menu, choose Safe RT and be sure that Record To Tape is set to the default Full Quality.

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To output your sequence manually:

Outputting to tape manually is widely used because it does not require deck control, so you can record to a camera or noncontrollable deck. In FCP, as in Avid, you must first edit into your sequence any bars and tone, slate, black, or other desired header material prior to recording. You must also render your effects and transitions.

1 To render any unrendered effects, deselect all clips in the Timeline and choose Sequence > Render All, or press Option-R. Make sure your RT settings are set to Safe RT and Full Quality before you render.

NOTE ► You can choose additional render options in the Render Control tab of the Sequence Settings window.

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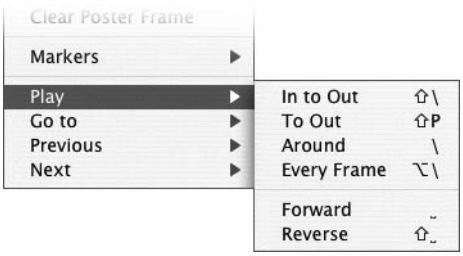
2 Move your playhead to the beginning of the sequence or to the point where you want to begin recording.

TIP Until you play the sequence, FCP will output a freeze frame from the playhead location. You might want to place a black slug before the sequence and park the playhead within the slug to ensure a smooth start. Similarly, you can add a slug to the end of the sequence so the playhead will stop on a black frame rather than on the last frame of your sequence.

3 If you want to loop the sequence and have it play again automatically until you stop it, choose View > Loop Playback, or press Control-L.

4 Connect your deck or camcorder to your computer and make sure the camera is set to VCR and not Camera. Put your deck or camera into Record mode and give it a few seconds run-up time.

5 Play the sequence. You can also choose one of the Play options from the Mark menu.



To output using Print to Video:

The Print to Video command, like the manual output method, does not require deck control, but it does enable you to incorporate the mastering options in your output. Also, Print to Video will automatically render any unrendered items at the current render settings prior to output.

1 Make sure the render options are at their appropriate settings.

2 Choose File > Print to Video, or press Control-M.

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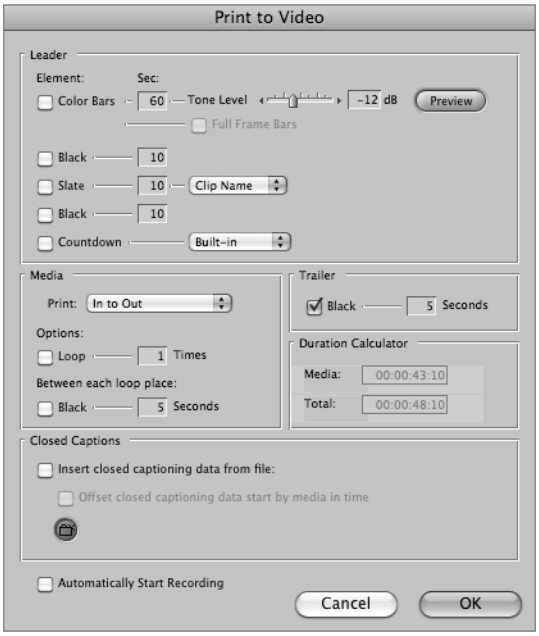

Print to Video default settings

3 In the Print to Video window, select the different mastering options you want to include on your tape. (These options are explained later in this section.) Preview your audio tone level to ensure it's coming through. Click OK.

If any rendering is required, FCP will automatically render those files before starting to play back the sequence.

4 After the sequence has been prepared for output, a dialog appears asking you to start your video recorder. After you start it, click OK.

To output using Edit to Tape:

Unlike the other two output methods, and functionally similar to Avid's Digital Cut to a controllable device, the Edit to Tape method requires deck control. Depending on your machine capability, this method allows for both Insert and Assemble editing, and you can even edit portions of your sequence to a pre-striped tape. You also have the same set of mastering options as you did in Print to Video, and, like that option, you have automatic rendering in Edit to Tape.

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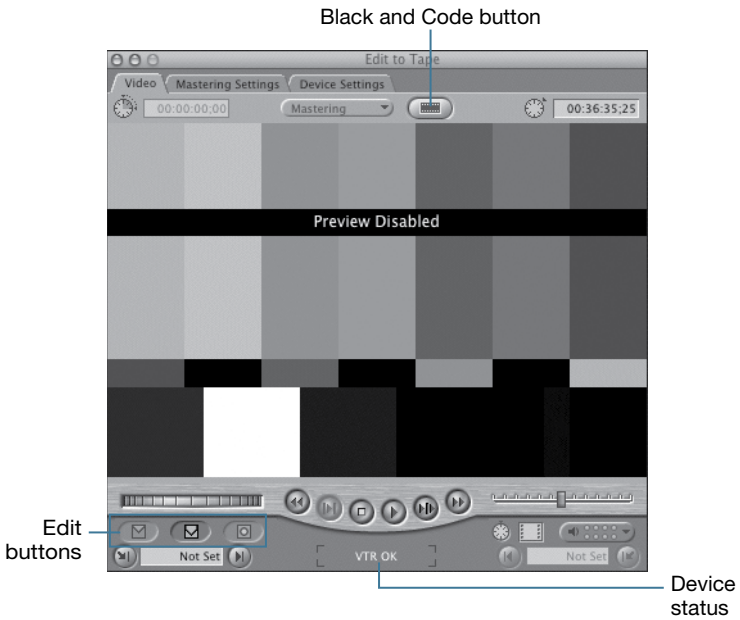
1 Make sure the render options are at their appropriate settings.

2 Choose File > Edit to Tape.



Edit to Tape window

The Edit to Tape window opens with three tabs. From the Video tab, you can control your deck, choose edit points and type of edit, and black and code your tape.

3 Click the Device Settings tab.

If you haven't changed your Easy Setup preset since you created this sequence, these settings should still be accurate.

4 Click the Mastering Settings tab.

Here you can select the mastering options you want to appear in your edit to tape.

5 Choose the desired mastering options, enter the appropriate timecode In point and edit type (Insert or Assemble), and click OK.

TIP If your equipment is capable of insert editing, you could enter an Out point instead of an In point. FCP will backtime the output from that location.

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Mastering Options

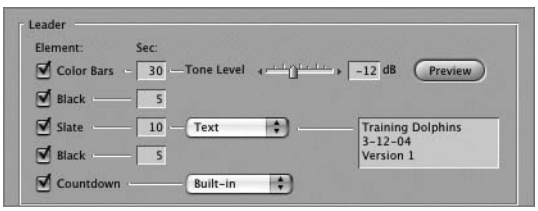
Instead of editing bars and tone—or black, slate, or a countdown—at the head of a sequence before output, the FCP mastering options enable you to choose those items, as well as individual durations for each item, from a list that appears in either the Print to Video or the Edit to Tape window. The same options appear in both windows.

The mastering options include four areas:

- Leader options that include all the media you want to see in the header before the actual sequence begins, including convenient built-in slate text area
- Media options to specify whether you are outputting from In to Out points in the Timeline or the entire sequence
- Trailer options, where you determine how much—if any—black will follow your sequence
- Duration calculator to give you a total output length based on the mastering selections you chose

The following sections provide specific information about each option:

Leader options—Each Leader item can be selected independent of the others and included in the output. The options are applied in the order they appear.



Color Bars and Tone Level—Duration is adjustable and tone dB is selectable. The color bars appear only once at the beginning of the first sequence if the looping option is also selected.

Tone Preview button—Click to send tone out to your deck to set a representative audio level.

Black—Black will appear after the color bars.

Slate—You can add a slate in three ways: by typing slate text in the text field, pointing to a file you have created to be the slate, or choosing Clip to use the name of the sequence as the slate. The first and last options appear as white letters over a black background.

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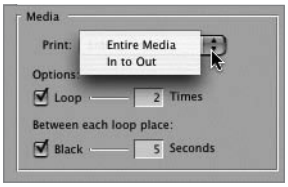
Black—Adds a duration of black after the slate.

Countdown—You can either add the FCP built-in countdown, which counts from 8 seconds down to 2 (0), or add a countdown that you have saved as a separate file.

Media options—In the Media options area, you can choose the portion of your sequence you are outputting and whether you want the sequence to loop.



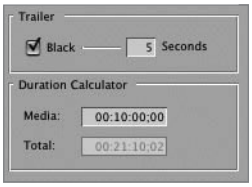
Print—You can choose to mark In and Out points for a selected output, or output the entire media in your Timeline regardless of whether In or Out points are present.

Loop—Looping enables you to record your sequence to tape several times automatically.

Black—Select to add black of any duration between looped sequences.

Trailer options—The only option available in the Trailer area is Black, which you select to add black of any duration to the end of your sequence or group of looped sequences.

Duration Calculator—You can use the Duration Calculator to add the entire length of your output. All you have to do is enter the length of your sequence. FCP adds the length of the options you've selected and displays the total amount in the Total field.



Media—Enter the length of your media.

Total—FCP calculates a total length based on media length and selected options, and takes into account drop frame or non-drop frame timecode formats.

Closed Captioning—If closed captioning was recorded on the clips in the current sequence, that information can be decoded during output.

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Making a Timecode Window Burn

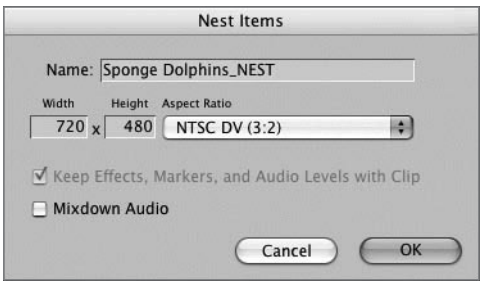
As in Avid, Final Cut Pro lets you create a window burn so you have a visual reference to your sequence timecode when you output to tape. But in FCP, you can apply the Timecode Reader filter to a single clip, a group of clips, or the entire sequence. You can also nest your sequence and then apply the Timecode Reader filter. Nesting is the best choice if you want to make changes to the timecode size, location, or opacity and have those changes apply to the entire sequence, plus it will display the sequence timecode, and not the source timecode of individual clips. While some older systems cannot play the filter in real time without rendering, most newer systems can, making it a perfect option for daily or spur-of-the-moment manual outputs.

To make a window burn:

1 In the Timeline, press Command-A to select all the clips in the current sequence.

TIP Select a single clip or clips if you want to apply this filter selectively.

2 Choose Sequence > Nest Items, or press Option-C. In the Nest Items dialog, give the sequence a name, add NEST to the name as a helpful reference, and click OK.



3 Single-click the nested item to select it, and choose Effects > Video Filters > Video > Timecode Reader.

The sequence timecode at the playhead location will appear in the Canvas.

NOTE ▶ When applied to a nest, the filter displays sequence timecode. When applied to an individual clip, it displays the source timecode of the clip.

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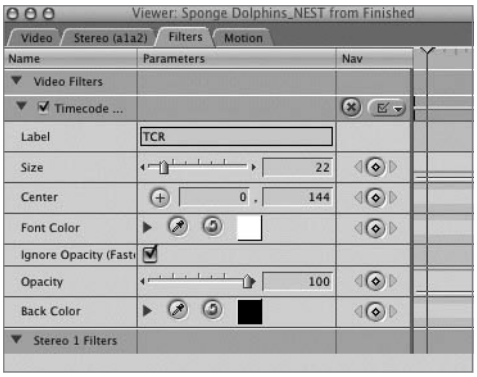
TIP To view both source and sequence (Master) timecode at the same time, step inside the nest, press Command-A to select all the clips, and apply the Timecode Reader filter to all the selected clips. Then step out of the nest and apply the filter to the nest itself. Rearrange the windows so that both source and sequence timecode can be seen.

4 To change the Timecode Reader settings, Option-double-click the selected nested item to open it into the Viewer, and then click the Filters tab.

TIP If you Option-double-click one track of an unselected nest, only that track will open in the Viewer. Be sure to select all tracks associated with the nested item before Option-double-clicking.



5 Adjust the visual timecode's size, position, font and back color, and opacity using the parameter controls.

Now you can output this sequence to tape with a window burn.

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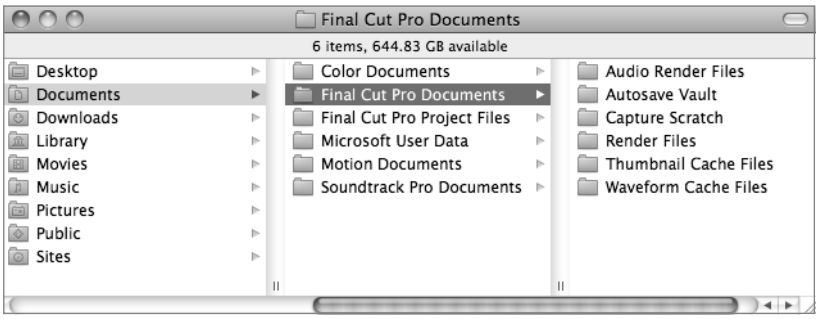
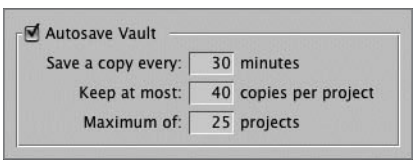
TIP You can also apply the Timecode Generator filter to display a timecode based on something other than your sequence frame rate. For example, you can display 24 frames per second timecode as a reference even though your sequence may be 29.97 or 25 fps.

Backing Up Projects

As experienced Avid editors know, the Attic has saved many a day after an unexpected power failure or some other event interrupts an edit. On certain occasions, it's even easier to restore a saved version than to completely undo an involved edit session that isn't fruitful. In Final Cut Pro, you'll find that the Autosave Vault is operationally similar. It is located in the Macintosh HD > Users > *User Name* > Documents > Final Cut Pro Documents folder and contains copies of every active project. In addition to backing up your project, you may also find it helpful to archive a list of clip information found in the Browser columns.



If the Autosave Vault is active, Final Cut Pro will save a backup of your project automatically at set time intervals as you work. You can make changes to the Autosave Vault settings in the User Preferences window (Option-Q).



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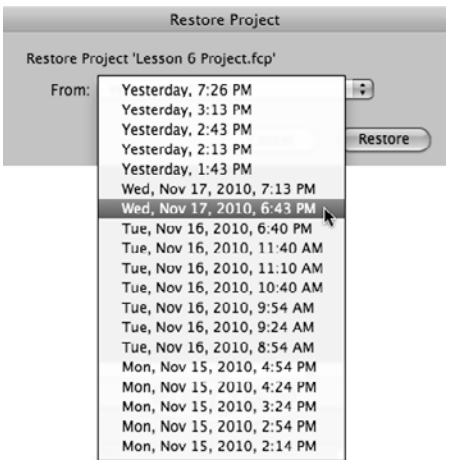
In addition, you should keep a few other backup strategies in mind:

- Periodically back up your project on a flash drive, CD, FireWire device, or server remote from the Autosave Vault. That way, if either system or media drive goes down, you will always have your project available to reconnect or recapture any lost material.
- Save different versions of your project as you work over the life of the edit. This reduces the chance of file corruption by ensuring that you don't work on the same physical file for an extended period of time.

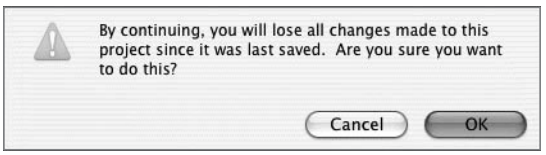
To restore a saved project from the Autosave Vault:

1. In the Browser, click the desired project tab and choose File > Restore Project.
2. In the Restore Project dialog, click the From pop-up menu, choose the project version you want to open, and click Restore.

   NOTE ► FCP saves your project backups using the project name, date, and time that it was saved.


Restore Project
Restore Project 'Lesson 6 Project.fcp'
From:
Yesterday, 7:26 PM
Yesterday, 3:13 PM
Yesterday, 2:43 PM
Yesterday, 2:13 PM
Yesterday, 1:43 PM
Wed, Nov 17, 2010, 7:13 PM
Wed, Nov 17, 2010, 6:43 PM
Tue, Nov 16, 2010, 6:40 PM
Tue, Nov 16, 2010, 11:40 AM
Tue, Nov 16, 2010, 11:10 AM
Tue, Nov 16, 2010, 10:40 AM
Tue, Nov 16, 2010, 9:54 AM
Tue, Nov 16, 2010, 9:24 AM
Tue, Nov 16, 2010, 8:54 AM
Mon, Nov 15, 2010, 4:54 PM
Mon, Nov 15, 2010, 4:24 PM
Mon, Nov 15, 2010, 3:24 PM
Mon, Nov 15, 2010, 2:54 PM
Mon, Nov 15, 2010, 2:14 PM
Restore

3. When the warning dialog appears, click OK if you want to proceed to restore the current project to a previously saved version.


By continuing, you will lose all changes made to this project since it was last saved. Are you sure you want to do this?
Cancel
OK

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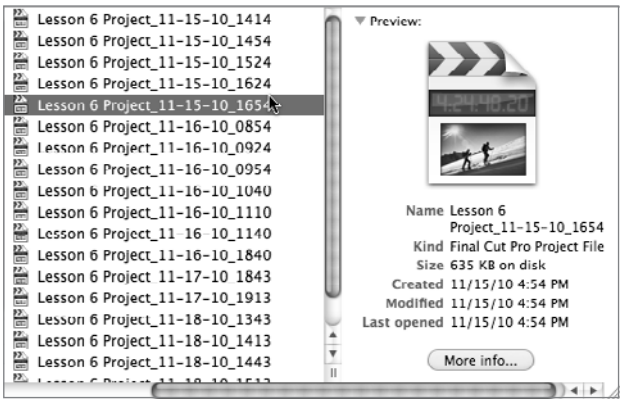
4 If you want to open a saved project from the Autosave Vault separately and not change or restore your current project, choose File > Open and navigate to the Autosave Vault folder. Look at the date stamp to select the version you want to open and click Choose.



TIP If you are editing a project and simply want to revert to the last time you saved changes, choose File > Revert Project. Any changes you made since the last save will be lost the next time you save.

NOTE ▶ Saving a project manually and using the Autosave process are completely different. Before you revert to a recently saved project, make sure to compare the modification date-time of the project file with that of the Autosave file. By comparing these modification times, you can make the best choice of whether to revert or restore a project file.

Some editors like to print or retain a list of all the clips in their projects, including the information they entered in the Browser columns. You can do this using the Batch List function. However, you will need the help of a spreadsheet program such as Apple Numbers, Microsoft Excel, or a program that can interpret the tab delineations created in the batch list.

To create a list of clips contained in your project:

1 Click in the Browser window to make it active.

2 Choose File > Export > Batch List. In the Save window, enter a name and save destination, and make sure that Tabbed Text is chosen as the Format option. Click Save.

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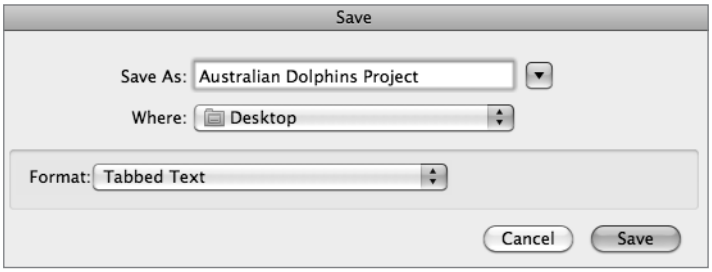
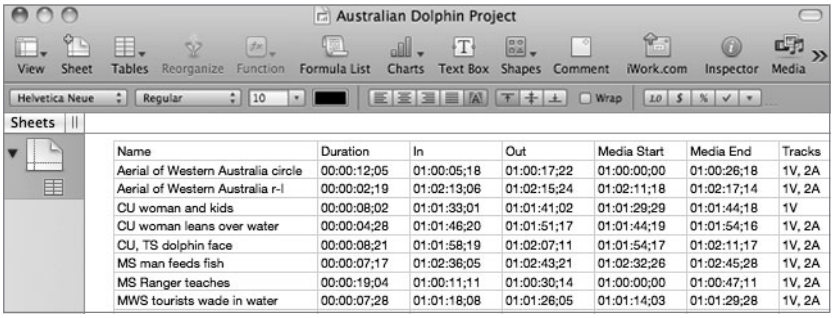


3 Launch a spreadsheet program, such as Excel or Numbers. Within a new document, choose File > Open, and navigate to the saved batch list you created in FCP.


Australian Dolphin Project
View Sheet Tables Reorganize Function Formula List Charts Text Box Shapes Comment iWork.com Inspector Media
Helvetica Neue Regular 10 Wrap
Sheets

Name	Duration	In	Out	Media Start	Media End	Tracks
Aerial of Western Australia circle	00:00:12;05	01:00:05;18	01:00:17;22	01:00:00;00	01:00:26;18	1V, 2A
Aerial of Western Australia r-l	00:00:02;19	01:02:13;06	01:02:15;24	01:02:11;18	01:02:17;14	1V, 2A
CU woman and kids	00:00:08;02	01:01:33;01	01:01:41;02	01:01:29;29	01:01:44;18	1V
CU woman leans over water	00:00:04;28	01:01:46;20	01:01:51;17	01:01:44;19	01:01:54;16	1V, 2A
CU, TS dolphin face	00:00:08;21	01:01:58;19	01:02:07;11	01:01:54;17	01:02:11;17	1V, 2A
MS man feeds fish	00:00:07;17	01:02:36;05	01:02:43;21	01:02:32;26	01:02:45;28	1V, 2A
MS Ranger teaches	00:00:19;04	01:00:11;11	01:00:30;14	01:00:00;00	01:00:47;11	1V, 2A
MWS tourists wade in water	00:00:07;28	01:01:18;08	01:01:26;05	01:01:14;03	01:01:29;28	1V, 2A

Because the batch list is in a tab-delineated format, the information is placed into separate cells in the spreadsheet.

4 Adjust the column widths to allow the information to be read easily.

You can now print the batch list and archive it with your other project elements.

What You've Learned

- Final Cut Pro can detect audio peaks in one or more clips, or in an entire sequence and mark those locations in the Timeline ruler area or on a selected clip.
- You can adjust audio levels using the Gain Adjust window or the Audio Mixer. You can also control audio levels at the clip level by adjusting the volume overlay lines and any keyframes on that line.
- The Range Check function alerts you to chroma or luma levels that exceed acceptable broadcast limits.

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- When you open the Video Scopes tab in the Tool Bench, you can check video levels using any of the four scopes—Vectorscope, Waveform, RGB Parade, and Histogram.
- FCP provides filters that you can apply to make your sequence broadcast safe, as well as two color correction filters to adjust a clip's color.
- You can use the Limit Effect portion of a color correction filter to adjust just the selected color range of an image.
- You can output your project by recording it manually on a noncontrollable device, printing to video, or editing to tape.
- The Print to Video and Edit to Tape functions enable you to automatically add mastering options such as bars and tone, black, slate, countdown, and other options.
- You can apply the Timecode Reader filter to a nested sequence before outputting it to create a window burn.
- You can create an automatic backup of your project by enabling Autosave Vault in the User Preferences.
- You can restore a project by opening a previously saved version that resides in the Autosave Vault.
- You can revert the current project to a previously saved project, but you will lose all changes since the last save.
- FCP can export a batch list of all your project Elements which can be opened in a spreadsheet application, printed, and saved along with your other backup files.

Keyboard Shortcuts

Command-Shift-A	Deselect all selected items in the Timeline
Option-9	Open video scopes in the Tool Bench window
Control-Z	Turn on range checking to check for excess luma or chroma, or both
Command-Option-Q	Display the Audio/Video settings window
Option-R	Render all unrendered video and audio clips in a sequence
Control-L	Set playback to loop a clip or sequence
Control-M	Open the Print to Video window
Option-C	Display the Nest Items dialog for selected items

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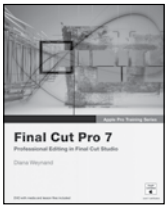

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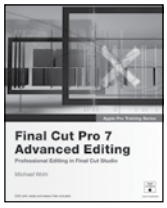

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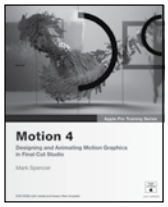

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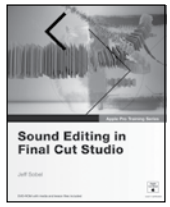

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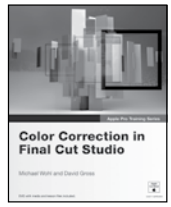

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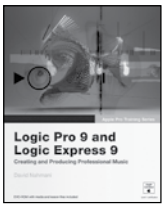

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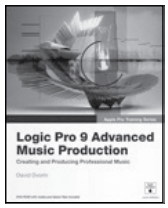

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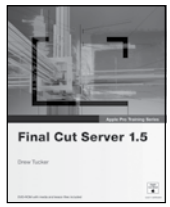

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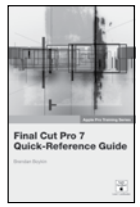

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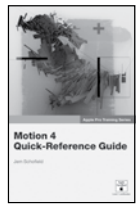

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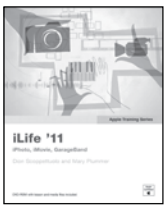

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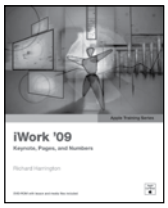

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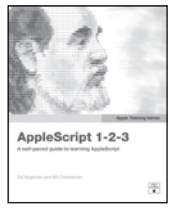

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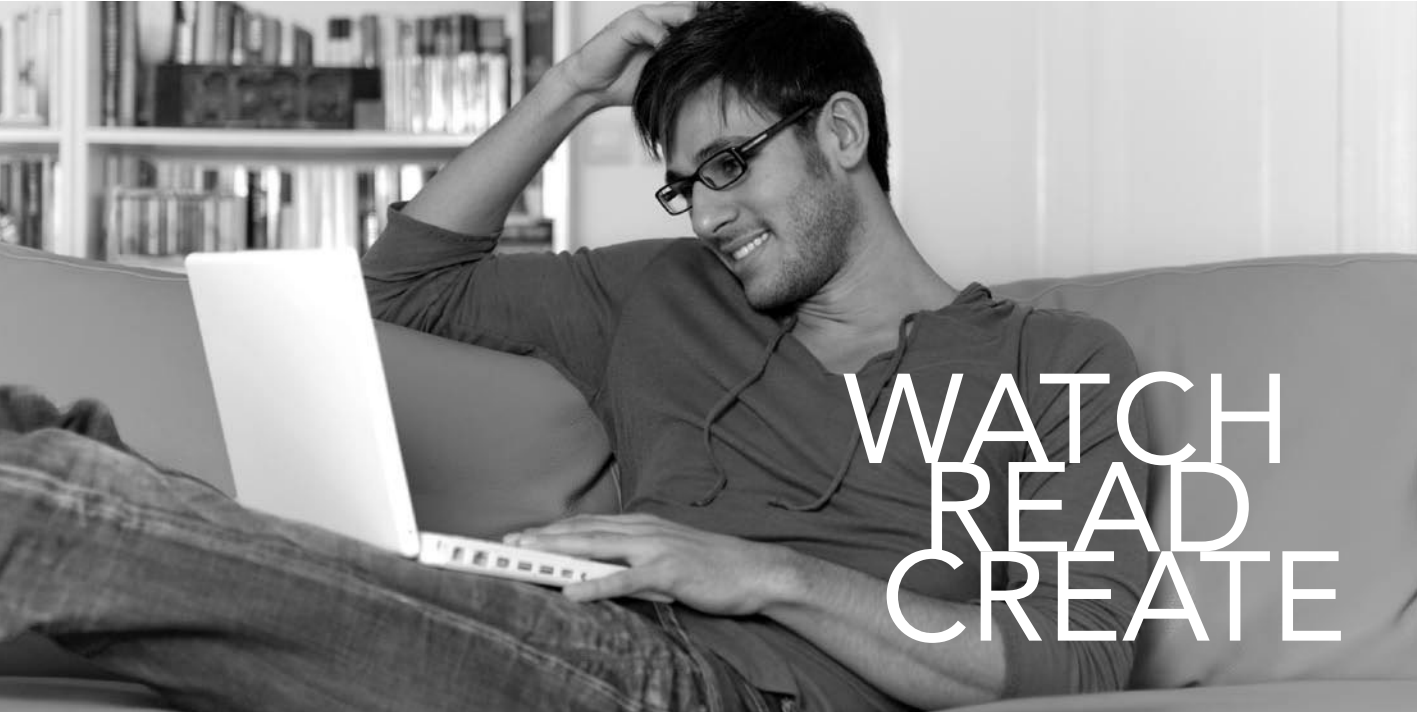

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